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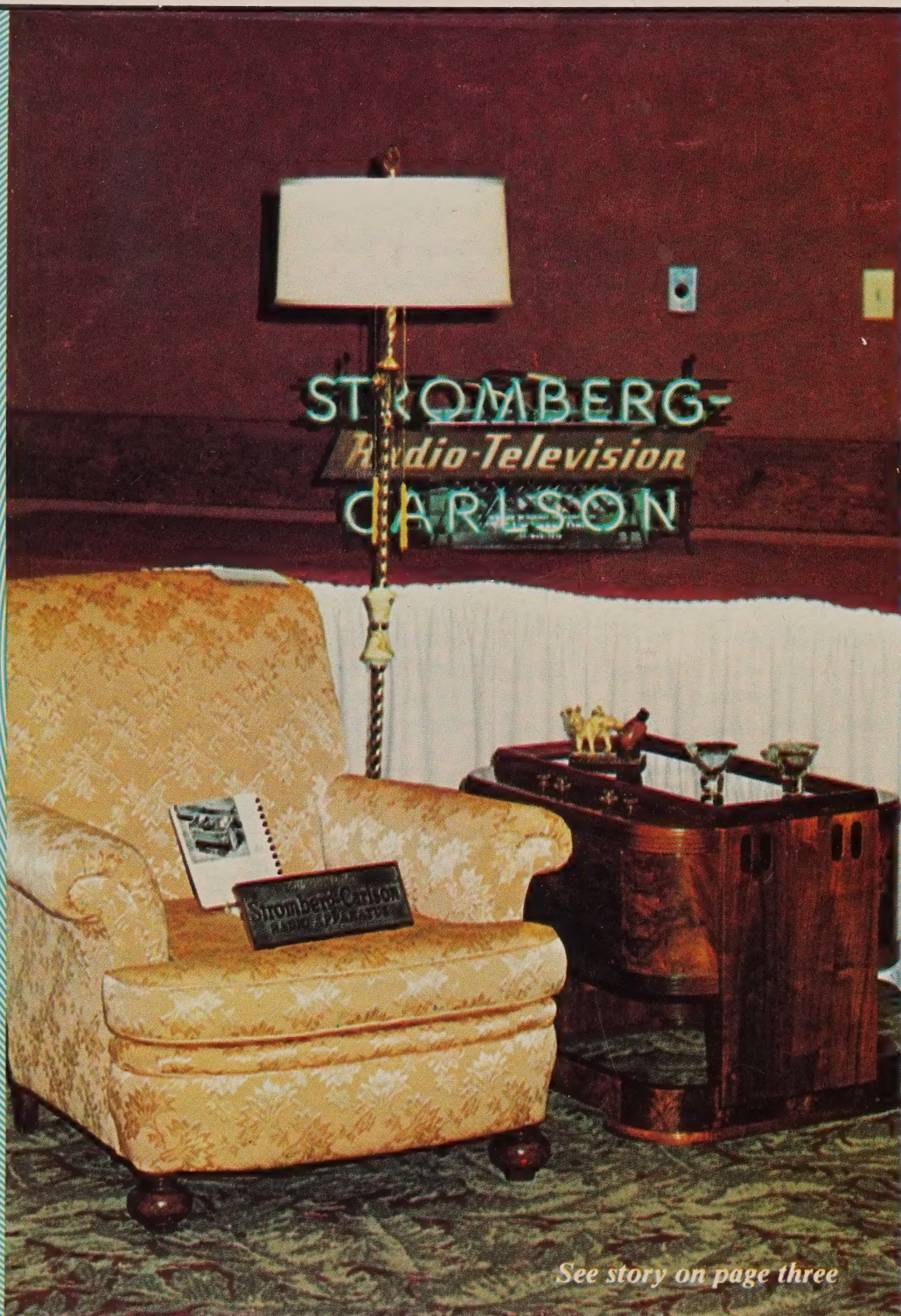
GAZETTE



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Heroes of the Wireless, Part II
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Tesla Coils - *Rodney Schrock*

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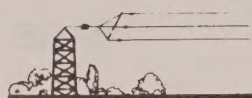
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President's Page



By Lloyd E. McIntyre

Welcome to some relief from the heat and the dust from the trail. What a trail! We saw nearly as many radio meets just in the month of September, as there were days. If it is a collector's paradise, then we are at maximum speed. From the cool days of spring to the last hot days of summer, the radio collector can spend 100% of his time and money in pursuit of this vast and growing hobby.

From ARCA to AWA, the original national clubs, has grown this society of friendly collectors. It is amazing that generally this is an organization of people dedicated to the preservation of radio and its history.

As we gather all of our treasures of this past summer and decide which ones need work, and which go to the attic, we have to ask ourselves how long will the supply last with all of this interest? We have seen the interest peak in many of the older TRF battery sets and the prices drop. So as the price of anything exceeds the ability of the marketplace to afford it, the prices erode and interest falls. This has been true of many collectables made in the last 60 to 70 years. So do not lose faith, just look for good old radios that people do not have a big interest in and buy those. There were millions of radios manufactured, so do not let a few people who drive the price of radios up with self-serving interests discourage you.

"IN LIVING COLOR" - Now that everyone has seen some of their favorite radios in color, how can you ever imagine a *Catalin* in black and white, or a nice wood-finish *Cathedral* or *Console* in black and white. No one would buy any of these sets if the manufacturer had simply just painted them in shades of gray or black. Why should you settle for a publication that only lets you see without color? Pass the word, there is now a new standard for the collector **"IN LIVING COLOR"**.

The publication staff would like to thank each of you who contributed to this great issue. Jim Troe brought together the team of writers who provided many of the articles for this issue. Hundreds of hours went into this tremendous effort.

The featured front cover picture (Vol. 19 No. 2) and the centerfold on the gorgeous McMurdo Silver, which did not have a credited by-line, belongs to yours truly. There was about fifty hours of total time that went into preparing the article, doing the color separations, hand-folding the centerfold, etc. It truly is a labor-of-love!

Encourage your radio collector friends to join ARCA, and contact one of our feature editors about helping with an article or series. With everyone's help, we can set new standards for our radio collector's society and set new goals to achieve.

Stromberg-Carlson A Real Life Story

By John England

During the waning depression years 1937-1939, many of the mainstream console radio manufacturers, such as Philco, and especially Zenith, turned out an astonishing array of sets aimed toward the increasing numbers of upscale Americans enjoying the pre-World War II prosperity. The Stromberg-Carlson Telephone Co. was no exception. Indeed, from its beginnings in the mid-1920's, the radio apparatus division of Stromberg-Carlson aimed its sights on the "carriage trade." Several manufacturers' lines contained radios designed by famous professional design teams.

The Stromberg-Carlson 231F Chairside radio, with mirrored butler table top, was manufactured for the 1937 model year as one of two chairside sets in the 1937 line (the 231R, half-round, fixed mirrored top being the other). Each chairside set had a distinct art-moderne design that complemented and helped round out a Stromberg-Carlson product array that was replete with futuristic design motifs.

Like many of the Stromberg-Carlson radios of the period, the 231F comprised a hardwood cabinet made of five-ply walnut veneer, with exotic grains on all exposed surfaces, stained mahogany. A removable butler table, made of mirrored glass with an etched window for the dial, was incorporated into the top surface

of the cabinet. The 231F that is the subject radio of this article was procured in much the same condition as one finds many radios of the period, namely with a dying or dead finish flaking or cracking in locations, a few inches of peeling veneer here and there, a sundry piece or corner broken, and overall showing its age. However, all veneer was present, and little or no vacuum cleaner damage or other human use wear was evident. The electronics were found to be sound, but the speaker was missing, and the dial, comprising a large yellow disk array, was cracked. All knobs were extant, albeit caked with the usual dirt.

The radio chassis, an AC six tube superhet, was extensively reworked by Ted Hannah of the Mid-Atlantic Antique Radio Club, utilizing materials and parts as close to the originals as possible. Stromberg-Carlson was known to use component values not common in the industry, and their design of the 231F was no exception. In any event, Ted Hannah was successful in resurrecting the set to its full potential.

The cabinet, after a thorough cleaning using the "GO-JO" (waterless hand cleaner) method, was taken to a professional cabinet-maker for repair of a broken corner and the lifting veneer. Back in ye olde shoppe, the cabinet finish was stripped using a mild antique stripper made in Canada, known

as "Circa 1812." Next, after much trial and error mixing, the cabinet was oil stained to its original mahogany tone. Black trim areas around the dial face aperture and heat vent holes were restored using a 50/50 mixture of flat black and gloss black lacquer. Thereafter, six coats of hand-rubbed shellac were applied to fill the grain and level the finish. Finally, 3 coats of high grade varnish were applied, the last being rubbed out first with pumice and then rottenstone. Lastly, 2 coats of dark paste wax were applied and buffed off using lambs wool.

A correct Stromberg speaker and dial face were located and installed; the radio was then returned to its cabinet, and after more than one hundred fifty man hours, an antenna was attached and the set turned on. The set, an AM-SW (2 band) superhet, is, in light of its bigger Stromberg brothers, a good, adequate performer.

Rounding out the period look of the display are several pieces, which were procured with their eventual incorporation into the 1930's display in mind. The 1930's armchair was acquired from a couple retiring to Florida. As heavy smokers, they had kept waffle-weave plastic covers on their furniture, which, when removed, revealed essentially new fabric. The brass floor lamp, of late 1920's design, was found in a junk shop on the "Southside" of Pittsburgh,

PA. After being re-plated, "antiqued" and equipped with a vintage shade, it became ready for incorporation. The 1930's art deco martini glasses were found in an antique shop in Bolivar, MD. Lastly, various pieces of Stromberg-Carlson advertising were incorporated to aid in making the exhibit appear to be a vintage floor display for a 1937 authorized dealer of Stromberg-Carlson radio apparatus.

The display, as shown, was well received, and it was most gratifying to receive numerous compliments on the period design. Kudos and a "Hatlo hat tip" (after Jimmy Hatlo, the man who drew "They'll Do It Every Time" and "Little Iodine") goes out to Joe Koester (MAARC), Jim Clark (MARC), Ted Hannah (MAARC) and to Lloyd McIntyre of Cross Lanes, W. Va. The display now resides, just as it appears, in our home, along with its numerous Stromberg-Carlson cousins in my collection.

Currently, I am attempting to collect the entire 1937 and 1938 Stromberg line (model numbers 100 through 299). A monograph relating to the history of the radio division of the company during the golden age is also in the works. Any and all assistance, especially from former Stromberg-Carlson employees and/or dealers, will be very sincerely appreciated. Please contact John England at P. O. Box 1674, Alexandria, VA, or at (703) 548-2952.

**IMPORTANT DATE TO FILE
AWAY FOR 1992**

(SEE PAGE 8)

WWVA Beams An All-American Signal To Half A Nation

By Eric Peters/W.Va. State Journal

At 2 a.m. on December 13, 1926, electronics wizard John Stroebel threw the switch that sent power surging through the tiny, home-built 50-watt transmitter set up in the basement of his Wheeling home.

The FCC had granted WWVA its first broadcast license on 860 kilocycles only one week earlier. Today, WWVA stands as one of the most influential, powerful, and best-loved music radio stations in North America. Its clear-channel 50,000-watt AM signal beams the best in popular country music, news, and live performances to 18 states from Maine to North Carolina, and north to six Canadian provinces.

WWVA is best known as home to Jamboree USA, the nation's second-oldest country music program (next to the Grand Ole Opry), first broadcast in 1933.

Since its premiere, Jamboree USA has been a byword for country music which has been called "the only truly artistic musical contribution to the world that Americans can claim solely as their own."*

Gone now are the days of bales of hay adorning the stage, the blue-overalled male performers and "gals" in gingham dresses. Gone, too, are some of the memorable entertainers who performed here: Webb Pierce, Ernest Tubb, Ira Louvin, Tex Ritter, Crazy Elmer, Hawkshaw Hawkins, Big Slim,

Merle Travis, Stoney Cooper.

Every Saturday night, live from Capitol Music Hall in downtown Wheeling, the program broadcasts live performances of the biggest contemporary names in country music: Randy Travis, Garth Brooks, Tanya Tucker, The Judds, Lee Greenwood, Kathy Mattea.

But WWVA and Jamboree USA do more than send country music over the airwaves. The Saturday night show annually draws more than 500,000 out-of-state visitors to Wheeling. And its spinoff, WWVA's giant outdoor country music festival "Jamboree in the Hills," regularly draws as many as 70,000 to the three-day celebration annually in mid-July.

Jamboree USA, Jamboree in the Hills, and the Capitol Music Hall annually generate an estimated \$15 million for the Wheeling economy (above and beyond ticket prices) in hotel/motels, restaurants, service stations and shopping.

Throughout the years, WWVA has maintained a high level of broadcast excellence and has received virtually every conceivable accolade for its journalism, programming, and community service, including the Peabody, the Robert F. Kennedy, the National Association of Broadcaster's Crystal Award, and countless others.

The client that sponsored WWVA's first paid commercial on January 15, 1928, continues today to advertise. The station maintains one of West Virginia's largest news and public affairs departments.

And its clear-channel signal continues to be a window on West Virginia for nearly half of the population in North America.

**Jazz buffs will have something to say about that claim!* CLC

Radio: As I Experienced It.

By Bill Hoy

Chapter Ten

MAGIC EYES, AND STUFF

In the early days of Roosevelt's first term in office, many radical changes occurred. One was the repeal of the Prohibition Law. That law was being openly ignored by the general public long before its repeal. I remember well the time "non-intoxicating" beer first became legal. The taverns-to-be were fully filled with cold stock, and impatient patrons of both sexes. I had spent the preceding month installing "Nickelodeons" with extension speakers, for the few places that could afford the cost. I was holding down one of the stools at the counter in a restaurant that had purchased equipment from me. The mood of the full house was about the same as shown to the troops returning from The Gulf War. Any reference to "bar" or "bartender" was prohibited, as was the word "saloon". The restaurant, as most in those days, had booths but no service. All orders had to be picked up at the counter. When THE TIME arrived, the bartender, oops, counterman, came forth and, like

the announcer at Indianapolis Speedway, yelled "Ladies and Gentlemen, beer can now be bought at the counter". There was a mad dash for the counter, and the revelry and dancing began. It continued, full-blast, until the legal closing time came around. I do not have any figures for it, but I would estimate I had earned five hundred dollars selling and installing Mills "Ferris Wheels", the popular name for their record-changer-player, and Wurlitzer nickel-machines, for "restaurants", in the month before beer sales became legal again. No one had nickelodions for lease at that time, so I had work servicing even those machines I had not sold. Most of the new owners were too scared to even open their machines; some would call me to change the records and needles for them. As an aside, I believe the Mills Novelty Company made the first coin-operated record player to be sold. It was the first I knew of.

SCUFFLING.

Franklin Roosevelt had been in

office since 1933, and was struggling to get his plans by the Supreme Court. Many were laying bets whether he would succeed in getting the country back on its feet, or on his chances of re-election. There was still very little money to be seen, at least for me. Most people were still buying "El Cheapos". When the music stopped, they pulled the tubes and heaved the set out. I was trying everything that even promised a small bit of extra money. I played a guitar in what we would call a country-music band for little more than the fun, though I was able to make friends among many who are today's country legends, some of them still alive and kicking. Among them were Minnie Pearl, who was known then as Sarah, of the comedy team "Saray and Sally", Bill and Charley Monroe, Roy Acuff, Cowboy Copas, and Roy Rogers of "Sons of the Pioneers", who later went on to act in movies. I did some work as a projectionist in a nearby movie theater, serviced "juke boxes" for beer taverns, repaired appliances of any kind, and even did all my own repairs on my cars. Anything to pick up, or save, a dollar. A very dear black friend, who just passed away recently, said "You gonna make it, you know how to scuffle." I suppose I have been scuffling ever since. My wife said, one day, that she was sure we were in another depression. I told her to forget it until she heard of people paying a nickel to go to the top of the tallest building and jump.

The Depression days made today's Recession look like a free vacation with food, dancing, and merriment. Most people lived like today's

homeless . . . with a place to sleep. It is impossible to describe the feeling of looking for work, and knowing, while you are looking, there is nothing out there for anybody.

THE MAGIC EYE TUBE.

In 1932, or thereabouts, Du Mont invented a simple low cost cathode-ray-tube able to indicate the presence, and relative value of a low voltage. It functioned by changing the size of an angular shadow on a fluorescent screen in what we would call the top of the tube. Some of the best radios had a meter in the plate circuit of one of the amplifier-tubes to measure the change in current with change in automatic volume control voltage and, indirectly, indicate when the set was tuned "on the button". Lower-cost good sets used a meter-like device in which the shadow of a moving metal vane was cast on a plastic screen. Both meters and shadowgraph indicators were prone to destruction from tube shorts, and they became sluggish with age. They cost real money, but the new indicator could be sold for about a dollar. RCA was never proven to be dumb, so they soon offered one million dollars, after taxes, for the patent rights. Their offer was accepted, with an alacrity I could not hope to equal, by the inventor. RCA dubbed the new tube a "Magic Eye" tube, and incorporated it in even their best sets. Many other set-makers followed suit. Soon, almost every radio had the Magic Eye tube. Soon, too, Magic Eyes were sprouting out all over, and many uses found for them were

not even remotely connected to radio. One thing certain, RCA did not lose money on that purchase! Several different versions of the Magic Eye were made. All were, for all purposes, the same except for the voltages needed. They were made almost all over the world, until transistors took over radio. Magic Eye Kits were available for installation in any set where the maker had not supplied one. They contained a six-pin plug and cable with a resistor built in, a metal mounting bracket for the tube, a brass bezel for the set-front, and a Magic Eye tube.

NEXT: BULLHORNS, AND UPSIDE DOWN RADIO SETS.

THE OSCILLOSCOPE.

I believe the cathode ray tube was invented years before radio. It had been an inaccurate beast used mainly in laboratories for highly specialized purposes. I believe it was called a Braun Tube, and it

required very high-cost equipment to operate. Philo Farnsworth had incorporated two in the first fully-electronic-television transmitter and receiver, for which he was issued a patent in 1928.

At about the same time, another unknown experimenter was working on the applications. His name was Allen Du Mont. The result of the work by Du Mont was the oscilloscope, first called oscillograph because it did what was formerly accomplished by a mechanical device which drew a graph on a paper sheet in real time. The first 'scopes to be marketed cost around five hundred dollars net---, more than a good automobile and far out of my range, so I gathered the parts and built one. When I first tested my simple oscilloscope, a whole new world of testing opened up. I bet I spent most of a month "playing" with the scope and establishing bragging rights over others in competition with me.

**IF YOU CAN ONLY ATTEND ONE
MAJOR SHOW IN 92, MAKE IT
ARCA-PARS IN JUNE,
PITTSBURGH, PA.**

BOOK REVIEW

"FIXING UP NICE OLD RADIOS"

By Ed Romney, 186 Pages, 8x11, Soft Cover

Ed Romney's book has been reviewed in several of the antique radio publications. So why another review? There are surely some members of ARCA who have not seen the book or seen a review. This book is definitely worth bringing to the attention of these members.

This book was written to educate the uninitiated in the art of electrically repairing old radios, and to give the experienced old timer some new ideas, and valuable and often amusing repair information on specific sets.

The first five chapters, covered in 33 pages, present a quick overview of radio history, and basic radio and vacuum tube theory. Ed then moves into the meat of the book . . . education by the case history approach. He doesn't give a theoretical or general discussion of a type of radio and talk generalities about repair. He discusses specific radios in detail. His philosophy is keep it simple and keep it interesting. And this he does.

In Chapter 6, he starts out with a discussion of regeneration, and then quickly gets into the case history of a non-working Crosley 50, and then a Radiola III. In Chapter 7 his discussion of audio amplifiers focuses quickly on the AK30, the Crosley 2-stage amplifiers, and the Grebe MU-1 for specific case histories. He then

moves into dc and ac power supplies, again using case histories to make the theory real. In his chapter on repair of TRF receivers, he uses the case histories of an AK40 and a Grebe MU-1.

Ed continues on to the introduction of screen grid tubes, with specific radios discussed. In Chapter 11 he covers early short-wave sets, with the Pilot Super Wasp and the SW3 covered in some detail. Moving into the super-heterodyne era, he includes discussion of the early Radiolas, moves on into the ac/dc midgets of the 1930s and 40s, and spends many pages on specific examples of increasingly complex sets, including 17 pages on the repair of Scott radios. Ed includes a short chapter on early amateur radios, including discussion of specific National, Hammarlund, and Hallicrafters sets.

This book is fun to read. It is written in a homey, easy to read style. One can pick it up, open it randomly, and find something interesting or amusing on any page. I recommend it highly.

My recommendation isn't because I told Ed that we would include a review of his book in the Gazette, if he would write an article for the Gazette. But that is the reason why the review is included in this specific issue! (See the article by Ed elsewhere in this issue on "early hi-fi")

This book can be obtained directly from Ed, autographed if you wish, \$25 + \$2 shipping, Box 96, Emlenton, PA 16373.

Reviewed by Jim Troe

HIGH FIDELITY RADIOS of the 1930s and 1940s

By Ed Romney

Just as antique sports cars and cars with custom built bodies are more interesting to car collectors than family four door sedans, early hi-fi and custom radios are particularly fascinating to many radio collectors. In the 1920s, rudimentary transmitters using carbon microphones and primitive modulators, and acoustically recorded records, limited the audio quality of radios at the receiver input. Even if the radio input signal had been of high quality, most high impedance horn and cone speakers of the 1920s sounded poor, and the then commonly used grid leak detector, which draws grid current, produced a high level of audio distortion. So we cannot call any of the 1920s radios hi-fi, no matter what they cost then. Today, if you connect a good modern speaker to a 1920s radio to test the radio after a repair, as I do, and listen to a modern station, it is surprising how good they sound.

It was not until the early 1930s that the hi-fi movement began. Sound motion pictures had a lot to do with it. People came to expect realistic sounding kisses, splashing water, and gunshots. The new ribbon and condenser microphones were much improved over the early microphones. Big theatres needed big sound systems. High quality 12, 15, and

even 18 inch speakers were developed by Jensen, Altec Lansing, and others, for this market. The typical theatre, public address system, or transmitter speech amplifier of the early 1930s used 2A3 triodes in push-pull, or in push-pull parallel. They were all transformer coupled, utilized fixed bias, but did not yet have inverse feedback. Premium radios used similar amplifiers, but often with type 45 tubes.

Our family had a Stewart Warner model 900 when I was a little boy. Both of my grandmothers were professional musicians. My mother was a good classical pianist. They would all complain when a radio sounded "tinny". We all loved that 1929 Stewart Warner with its heavy audio transformers, push-pull type 45 tubes, and a quality speaker. We kept this radio until 1950, and preferred its tone to later radios. The Atwater Kent model 55 was even superior with its tetrode rf tubes and low distortion plate detector.

In February 1938, Consumers Research published a bulletin showing how to modify old radios to hi-fi standards. They particularly recommended the AK 55, RCA Rictor R35 and R39, Sparton 110 and 111, and the Stromberg Carlson 635, 636, and 641. The conversion involved adding a good Jensen or other hi-fi speaker in an

infinite baffle or other large enclosure. The detector was converted to plate detection, or infinite impedance detection. An infinite impedance detector is basically a plate detector with the audio output taken off an un-bypassed cathode resistor. These radios sounded wonderful. Consumers Research praised the AK 55 above almost all 1938 consoles, except the Scotts and the Philharmonic Linear Standard. Consumers Research even suggested using the AK 55 unmodified, since it was better than most then new consoles. One major problem of consoles of the time was the use of tetrode and pentode output tubes, which have much higher distortion than triodes. Later, that problem was overcome by using inverse feedback loops around the output transformer, and with taps on the transformer for the tube screens. The myth persisted on into the 1950s that triodes sounded better than compensated triodes or pentodes. For an example of a simple inverse feedback system, look at the schematic of a modified Zenith K-725 FM-AM plastic table radio in Fig. 5. After modification, it is a fine sounding radio. If you have a favorite old radio, with a single beam power tube, that sounds poor to your modern ears, try a feedback network like the Zenith modification. It can be soldered in without spoiling anything original.

Many late 1930s superhets sounded poor because the IF amplifiers were too selective. In top grade 1935-1936 radios, such as the Bosch 595 and 695, the Scott Full Range High Fidelity, the Hammarlund Super Pro, and the

top of the line Grunow, Zenith, and some other makes, the problem was solved with variable selectivity IF transformers, that could be broadened for full frequency response when interference conditions permitted, all with a front panel control. Another problem was that the RF and mixer stages were often too selective at the low frequency end of the broadcast band. Bosch solved this problem by overcoupling the IF transformers to give a double humped broad selectivity curve. Scott solved the problem eloquently and automatically by using a small variable condenser, coupled to the main tuning condenser, that decoupled and broadened the RF selectivity at the low end of the band. Still, the belief of many, until after WWII, was that TRF receivers had superior fidelity to superhets. A particularly nice TRF kit radio was offered by National in the late 1930s. It consisted of a fixed tuned broad band TRF receiver for each station of interest, designed to be mounted in a relay rack. To tune from one station to another, you selected the station of interest by switching from one radio to another (See Fig. 1). Federal made a similar set. Meissner produced excellent broad band TRF hi-fi AM tuner kits (See Fig. 2 and 3). Miller also sold kits of parts for making hi-fi radios (See Fig. 4). The best of these radios was probably the Philharmonic Linear Standard, a console of Scott quality, made in limited quantities in New York. I know this set only by reputation. I would like very much to talk to anyone who owns one, or who has literature on the set.

In the 1930s, some believed that

cactus phonograph needles had a superior tone quality compared with metal needles. They were sharpened in an interesting pencil sharpener like device. Before record changers, there were systems with dual turntables, to play without interruption the many 78 rpm records needed for a full symphony or opera. Broadcast monitor speakers of increasing quality developed in the 1930s and were used in radio stations to show off the station's high program quality to advertising clients and visitors. Jensen, Altec Lansing, and Stephens were well known names. The bass-reflex speaker cabinet was developed to radiate a back wave in phase with the front sound from the speaker, to avoid the tubby sound common to small enclosures.

Some communication receivers used in ham and commercial radio provided hi-fi capability, by 1936 in the Hammarlund Super-Pro, and in 1938 in the very popular Hallicrafters SX-16. It had push-pull audio of good quality, and a variable selectivity IF that could be controlled by a front panel switch, for real hi-fi. This relatively low priced receiver was often advertised shown sitting on a Jensen bass reflex speaker cabinet. The Hallicrafters SX-17, SX-25, and SX-28, and the National NC-200 had fine audio quality also. Any of these sets are good choices today for long range hi-fi AM reception on the broadcast and short wave bands.

By 1940-1941, WQXR in New York City began broadcasting experimental high fidelity programs, and later regularly programmed hi-fi broadcasts of good music, on a

wide range channel at 1560 kc, which was then above the official broadcast band. It had 10 kc. frequency response. I listened to it as a kid, and still listen today to a station 450 miles away in Pennsylvania. The scarcity of good local FM music makes many classical music lovers want long range AM hi-fi capability even today. The solution is a good old high quality radio, since good AM tuners are no longer made for long distance reception.

After WWII, most radio manufacturers neglected the hi-fi market. One reason was Chinn and Eisenberg's study in 1945, a listening test in which most listeners rejected the hi-fi choice. Dr. Harry Olson did a similar study in 1947, but with better control of acoustic filtering, and with no distortion. He obtained quite different conclusions. This time the majority of the test subjects preferred the wide range hi-fidelity choice. Even so, RCA, and others, believing that the general public was not very sophisticated when it came to music, continued to produce big consoles, with single ended audio amplifiers and light weight speakers with poor sound quality. This gave rise to the post war development of custom component hi-fi radios and record players. Consumers Research and Consumers Reports magazines both promoted the use of component systems with separate radio tuners, amplifiers, record players, and speakers. LP records, and the GE magnetic pickup with low output, prompted design of low noise pre-amps. Due to the different equalization curves used by different record makers,

elaborate tone control systems were produced. Bell, Bogen, Radio Craftsman, Brook (which was an all triode design), Heathkit, Allied, Lafayette, Radio Shack, Pilot, and Browning were early suppliers of hi-fi components. Such equipment is now highly collectable, and is relatively cheap.

Fisher and Capehart made quality semi-custom grade consoles. Meissner made excellent equipment. I hope that collectors are saving these items today. The early Klipschorn speakers and the Electro-Voice relatives sound wonderful even today. They should not only be saved, but used! It is interesting to note that even some very expensive so-called top of the line console radios, such as the Scott 800B, did not use hi-fi design. The audio system was designed more like a PA system of the day, not like a pre-war high quality console audio amplifier. But by then the Scott company was not what it once was — E. H.* Scott had been forced out of his own business.

FM radio is a study and a story unto itself. The pre-war 40 mc. FM band had few listeners, and was operated primarily as an experimental service. Post-war, RCA and others introduced FM radios with poor audio quality ratio detectors, that gave the fledgling service a bad name. Many kit and component FM tuners used ratio detectors, much to their disadvantage. Zenith, Browning, E. H. Scott, and other high quality manufacturers used the Armstrong system of detection and IF limiters. Early Zenith FM table radios and consoles are of exceptional quality,

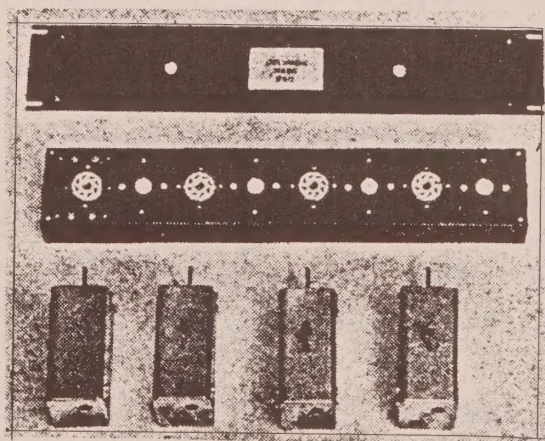
even the plastic cased K-725 discussed earlier.

This article is only an overview of early hi-fi. I have written it because I hope the period will be studied much more, and early hi-fi equipment restored and saved.

In the days of universal jazz and soap opera on the broadcast bands, long range AM hi-fi radios enabled us to enjoy wonderful programs like the Longines Symphonette, The Texaco Metropolitan Opera, Walter Damrosch, and even Madame Schumann-Heink, who sang lullabies to babies, and told stories of her fascinating life, on a 1934 program sponsored by the Gerber baby food people.

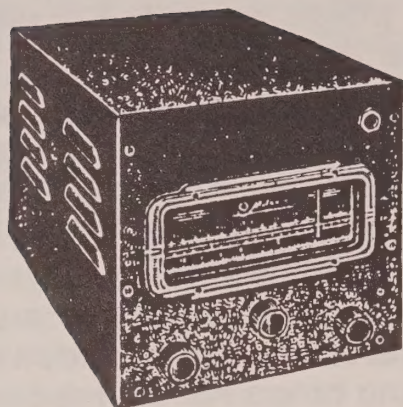
**The author has apparently confused E. H. Scott (radios) with H. H. Scott, who made hi-fi gear. H. H. Scott lasted into the 70's, when the name was sold to the Japanese after H. H. Scott's death. CLC*

NATIONAL HIGH FIDELITY

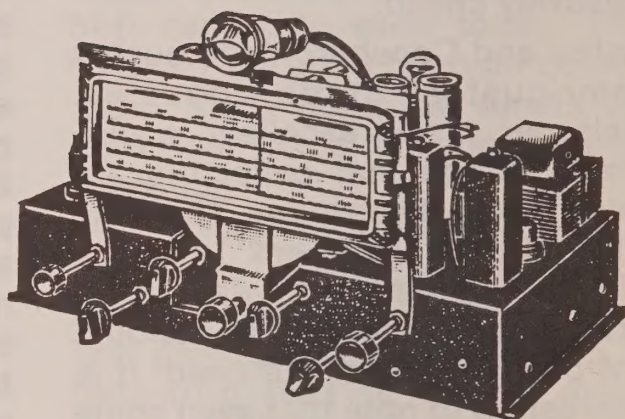


**Prewar NATIONAL
Hi-Fi AM Kit**

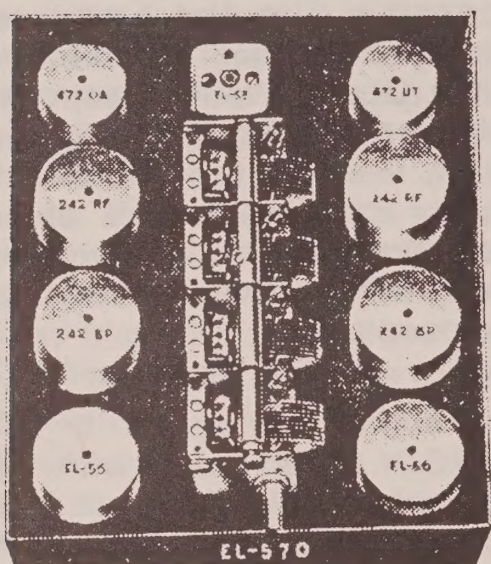
Fig. 1



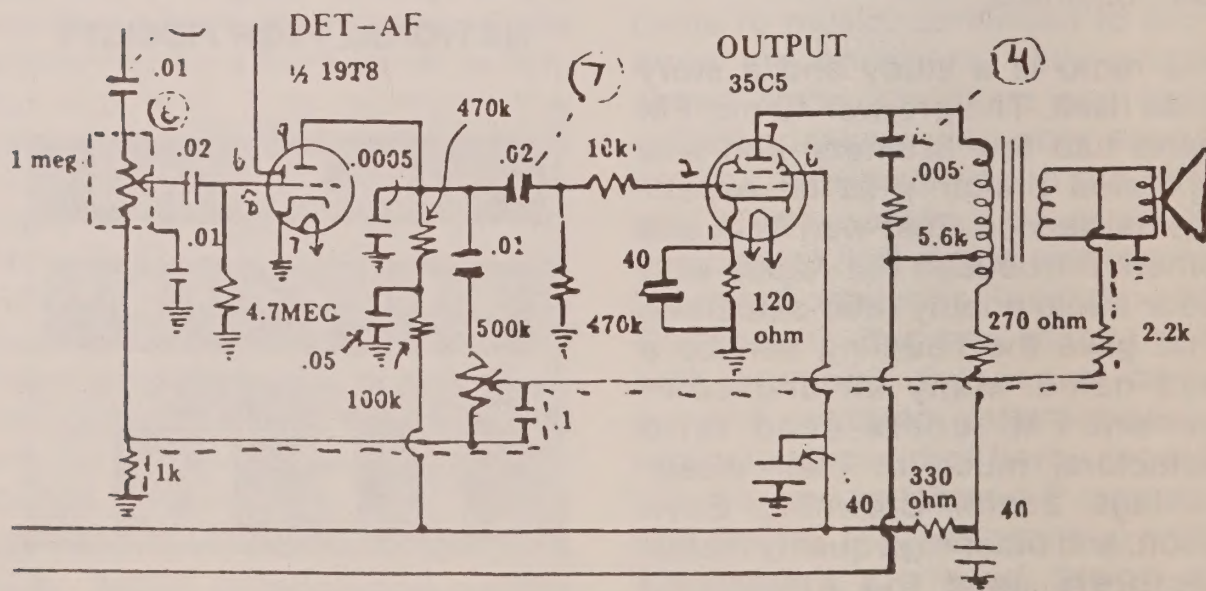
MEISSNER 9-1034
Wideband TRF Hi-Fi AM Tuner
 circa 1940
 Fig. 2



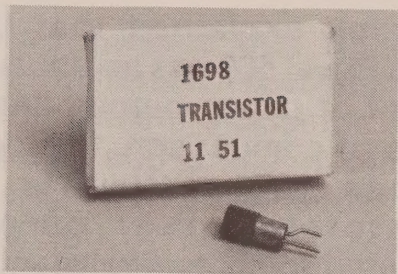
12 Tube MEISSNER
HI-FI AM/SW Chassis
 for Custom Installations
 circa 1940
 Variable Selectivity IF
 (An Exceptional Radio)
 Fig. 3



MILLER HI-FI AM Tuner Kit
 Fig. 4



Adding an inverse feedback network, such as is on this Zenith K725, will greatly improve the sound of many old radios. The dotted lines show the added components. — Fig. 5



TRANSISTOR TOPICS

The First Zenith Transistor Radio The Royal 500

By Ross Smlth

The "Royal 500 all-transistor portable radio" was announced by Zenith Radio Corporation in their press release dated Tuesday, November 22, 1955. The first Royal 500 used chassis number 7XT40, an aluminum chassis with hand-wired components. This chassis was replaced by a printed circuit board version in 1956. The set was powered by four AA cells.

An early sales sheet carried the following message:

"A word about transistors:
These tiny, but powerful elec-

tronic miracles completely eliminate the need for bulky tubes. Zenith quality transistors have no filaments to burn out. They last far longer than ordinary tubes and generate no heat, which adds to the life of the set's component parts. No warm up time is needed with transistors, they start the set playing instantly.

The Zenith Royal 500 uses seven transistors in its compact design. Its undistorted sound, even at high volume, is equal to many other portable radios twice its size. Zenith has pioneered in the development of transistors in its world-famous Hearing Aid products and is one of the world's largest users of transistors.

The new Zenith Royal 500 portable transistor radio is another great achievement from the famous Zenith research laboratories."

We have received permission to copy the original press release from Mr. John I. Taylor, Corporate Public Relations Officer of Zenith Electronic Corporation:



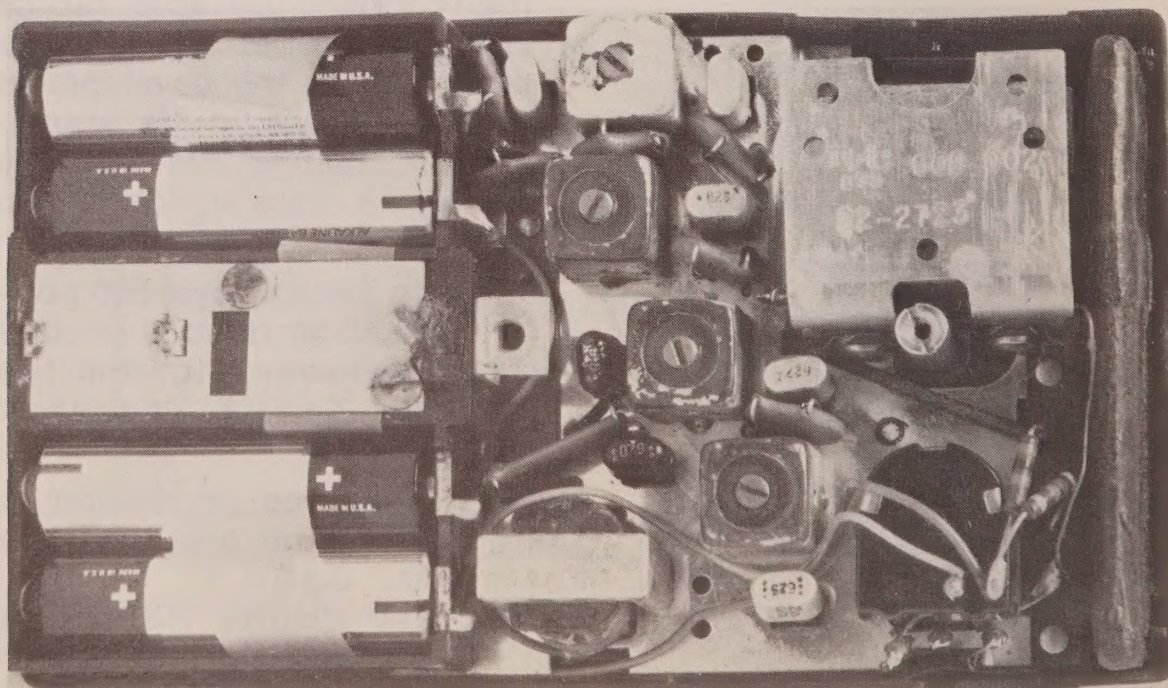
Zenith Radio Corporation today announced the "Royal 500 all-transistor portable radio." This new portable radio uses *seven* transistors and weighs only 19 ounces, yet it is so powerful that it brings in weak, long distant stations which are ordinarily out of the range of 4-transistor miniature radios.

In announcing Zenith's first 7-transistor radio to the company's distributors, L. C. Truesdell, vice-president and director of sales, stated that the battery cost for the Royal 500 is much lower than for the average set of this type. The Zenith set operates for approximately 1¢ per hour as compared to 6 to 17¢ an hour for small, compact vacuum tube portables.

The power source for this set is four, tiny penlite batteries that are readily available in many stores for ten cents apiece, he said. The batteries can easily be replaced in a matter of seconds.

Truesdell explained that the Zenith Royal 500 has an unusual amount of power output. "As a means of comparison, this new set has 100 milliwatts of undistorted power output compared to six to twelve milliwatts of undistorted power output in the usual 4-transistor instruments, and the unusually sensitive circuitry in the new Zenith portable is the result of the company's experience in building hearing aids that use transistors as a replacement for vacuum tubes," he said. "The new circuitry," he added, "accomplishes previously unheard of economy and takes full advantage of the improved performance that transistors provide." Zenith is the largest user of transistors in the United States with the one exception of the telephone company.

The Royal 500, which is 3½" wide; 5¾" high and 1½" deep, has a non-breakable case of



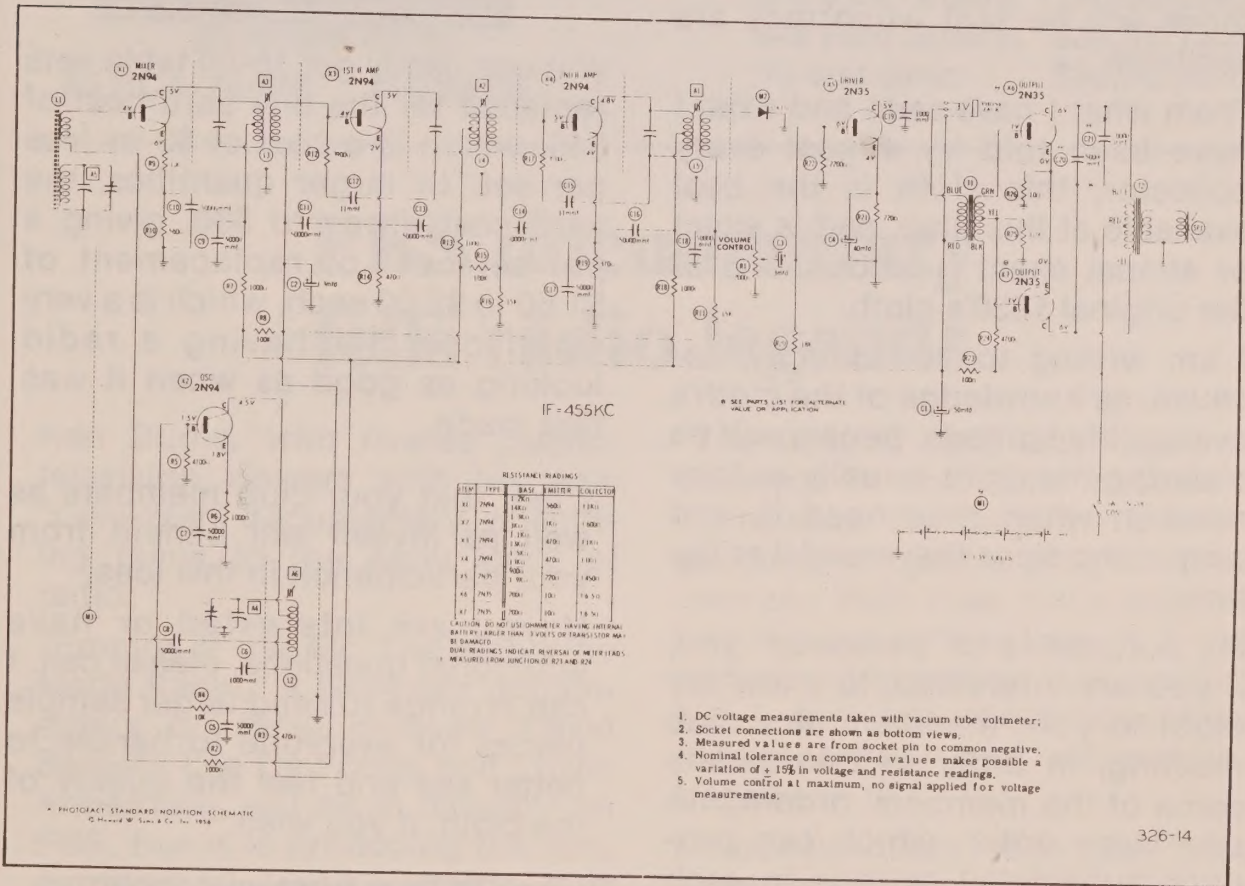
nylon material that withstands severe impact, Truesdell stated. A convenient 3-position handle swings above the cabinet for "carry about" use; slides down and back of the radio to serve as a table support; or hugs the bottom of the cabinet when the set is tucked into purse or pocket.

The dial is clearly marked with Civilian Defense frequencies. Also the set has a socket for a handy earphone attachment, optional at slight extra cost,

which plugs into the set for private radio listening and cuts off the regular speaker, Truesdell said.

Cabinetry is black or maroon color with a gold-colored trim. Suggested retail price of the receiver, Truesdell said, is \$75.00, less batteries.

Additional information on the Zenith Royal 500 will be found in the May, 1991 copy of the AWA Old Timer's Bulletin, Volume 32, Number 1, written by Norm Smith.



June 4-6 ARCA-PARS NATIONAL CONVENTION PITTSBURGH, PA

Hard To Find Grill Cloth

By Michael Katz

After more than two years of difficulty in obtaining new supplies, I am "back in business" selling replacement grille cloth for 1930's radios. I have recently advertised in two publications (ARC and Radio Age), but if you haven't seen the ads, I am enclosing my sample sheet of patterns currently available. In addition I have 5 other patterns on order, and samples of those will be sent when they are available.

From what I have seen and what I have been told by almost every collector, this cloth is the best available at this time, and is exact or almost exact reproductions of the original 1930's cloth.

I am writing to you directly because, as knowledge of the cloth's availability spreads, people will be ordering the cloth, usually as they need it, when they need it, and only in the sizes they need it at the time.

My purpose is to "persuade" you, if you are interested, to show my cloth to your members at a club meeting, in order to consolidate some of the members' orders into one large order, which can produce substantial savings to each collector ordering, since the quantity pricing on yard orders is much lower than buying it by the piece.

An example: my one yard piece - 51" wide by 36" long (\$45) is equal in size to 15 of my 10" wide by 12" long pieces (at \$6 each = \$90). By sharing a yard and careful cutting



you can easily get 15-20 table sets replaced for the one yard cost of \$45, which is a cost of \$3 or less per set. In larger quantities, the yard cost drops to \$30, giving a per-set cost of replacement of \$1.50 to \$2.00 each, which is a very small cost for having a radio looking as good as when it was first made.

I feel that your club members as well as myself will benefit from your participation in this idea.

If you are interested or have additional questions, please call. I can arrange to send larger sample pieces for everyone to handle to better see and feel the quality of the cloth, if you wish.

Hope to hear from you soon!

Sincerely yours,

Michael Katz

432 Park Avenue South, #402
New York, NY 10016

(212) 725-0736 evenings only

P.S. — The cloth can be cut in 1 yard pieces or in the full length requested.

GRILLE CLOTH SAMPLE SHEET

MICHAEL KATZ
432 Park Avenue South
#402

New York, NY 10016
(212) 725-0736 (evenings)

*** Patterns 1 and 2 are on
re-order, not available yet. ***

#3 Philco

12"W x 12"L	\$ 7.00
15"W x 18"L	11.00
24"W x 24"L	24.00
51"W x 36"L (yard)	45.00

#3 Philco 70/90

#5 RCA/Zenith #10 Basic

#5 RCA/Zenith & #10 Basic

10"W x 12"L	\$ 6.00
15"W x 18"L	11.00
20"W x 24"L	20.00
51"W x 36"L (yard)	45.00

Please note: a 20x24" piece is 4 times as large as a 10x12" piece; a 51x36" is 15 times as large as a 10x12" piece.

Additional patterns are on order, delivery date is unknown.

Postage is included in all prices!

Mix and match large orders:

3-4 yard orders: \$40.00/yard

5-9 yard orders: \$35.00/yard

10 and over: \$30.00/yard

PBS documentary tells radio legends

Ken Burns, who riveted public-television viewers with his epic "Civil War" documentary, is shifting focus to the early story of radio.

"Empire of the Air: The Men Who Made Radio," a two-hour documentary on radio pioneers David Sarnoff, Lee De Forest and Edwin Armstrong, will air in January on PBS. Burns is producing the film, narrated by Jason Robards. It is based on a book by Tom Lewis.

The documentary will span 1906 to 1955, combining music, interviews, rare archival material and old news-reel footage. At certain points, the screen will go dark, forcing the audience to listen to radio material as originally presented without visual accompaniment.

"The story of radio is the story of America in the 20th century," Burns said. "So 'Empire of the Air' becomes not just a story of three men and their lives, but a story of how we are as a people. It is not just about invention and genius, but a dark tale about deception, disagreement and ultimately, tragedy."

In conjunction with the film, American Public Radio will air a 90-minute drama, "Empire of the Air: The Men Who Made Radio," narrated by Robards.

Chicago Sun-Times, August 27, 1991, Page 39.

CREDIT by-line to Ken Greenburg of Skokie, Illinois for alerting us to this program.

Radiant Expo '91

We would like to announce that on Saturday and Sunday, November 2 and 3, 1991, the first Fair "Radiant Expo '91" will be held at the Novegro Exhibition Park, a short distance from the Linate-Milan Airport.

Promoted by COMIS with the help of the technical organizing Committee formed by some experts in the sector, for example R. Kron, S. Arborini, and C. Muzio, this international event offers both a swap-meet and a radio flea market, comprising military and industrial surplus, radio-kits and antique radios and as an exposition/market will show new sets and components for telecommunications, electronics and computers.

It is open not only to "hams" and enthusiasts of long and short wave radio transmission (OM and CB), experts in telecommunications, electronics and computers, but also to set builders and collectors of radio and old-radio telephony technology. All are asked to come and get better acquainted: "Let's get better acquainted" is the slogan of the first "RADIANT EXPO '91".

COMIS would be grateful if you could fill out the enclosed form, letting us know whether you are interested in participating in RADIANT EXPO '91 (Nov. 2-3, 1991).

Our organization will be happy to provide further information.

Again, looking forward to seeing you at RADIANT '91.

Yours truly, The President (Avv. Vincenzo Pagliuzzi), Protocol Number 280/RAD, Milan, Italy.

Received my first issue of A.R.G. the other day. This first issue taught me something! I have several farm radios that use vibrator power supplies (6 volt). I could not figure out how they rectified the AC voltage from the transformer. So I'm dumb! No tube, no diodes. Well the first article I read showed me how it's done! My job is in electronics and I should have seen it! Bill Hoy's "Radio: As I Experienced It" Chapter 8! Thank you Bill!

Now! In reference to "The President's Page" about the "Edison Effect"! Phooie! Edison was a jerk! I would call it the Tesla Effect! If it wasn't for Tesla we wouldn't have radio, AC induction motors, 3 phase power and motors and much, much more that has to do with AC and high freq.!

Well, anyway, so far I like your mag.! Lots of articles and not too much advertising like A.R.C. has! Also, thank you for the extra that was sent with my subscription! It will come in very handy!

Yours truly, Wm. G. Mitch "N9JTR"
(always on 40 meters), 668 W. 725 So., Hebron, Ind. 46341.

I was surprised and pleased to receive your letter with the ARCA Life Membership card and certificate as well as your expression of appreciation.

The relationship between ARCA and AWA has been enjoyable to me personally and certainly beneficial to the goals of both organizations. Preserving radio history and its artifacts needs the interest and cooperation of many individuals and groups, as you're well aware.

(Continued on page 22)



Winter Issue will include a full picture report on our Hawaii Chapter



These two gentlemen offer a wide selection of products from old to new. That nice red RCA banner now hangs in the display room of the Museum of Radio & Technology in Huntington, WV.

(Continued from page 20)

I'm also happy to note the recognition given to the Denks and Drakes which they greatly deserve, particularly for their devotion to ARCA.

Thank you for your good wishes.

Sincerely, Bruce Kelley, Curator
AWA Electronic-Communication
Museum, Holcomb, NY 14469.

It was a pleasure to receive and peruse (twice) the "all new" ARCA GAZETTE!!!

Knowing the "sweat & tears" that are required of many dedicated people to get a quality publication to press, a sincere thanks from Sara and me, also from all the membership of ARCA.

Each article, from "Dear KDKA", by our PARS Editor, David Kraeuter, to "Transistor Topics", by Serge Krauss, which covered a span from 1924 to 1959, with all the other great articles, including the pictures in color, your ARCA GAZETTE for Summer 1991 has to herald a new beginning for antique radio buffs.

The centerfold, in color, is innovative and informative; we hope this will be a permanent feature of forthcoming GAZETTE publications.

Today's changing world requires changing attitudes in regard to all publications of our collecting, restoration, and radio building hobby; you had the courage to pioneer and encourage others to set a new goal for the GAZETTE and ARCA—congratulations and thanks!

It was great seeing all of you at ARCA '91, Timonium, Maryland, in June, and to know, as we witnessed, that it was not only a great success, but just plain fun (not hurried) chatting with old friends and meeting new ones.

Thanks again Lloyd, and we plan to see you at the "Museum of Radio and Technology" on October 5th, as announced in the recent GAZETTE.

Sincerely, John W. Haught, 5268
Webb Street, Aliquippa, PA 15001,
(412) 378-4026.

The Early Radio History of Northern New Jersey

This series is copied from "The Citizen", a Boonton, New Jersey newspaper, as it was printed in June, 1950. The author, Ed Weed, has given us permission to reprint this story.

In past issues of the ARCA Gazette, we have covered:

Radio Frequency Laboratories
(RFL) Summer 1990

Aircraft Radio Corporation
Fall 1990

Ballantine Laboratories
Spring 1991

Ferris Instrument Co.
Summer 1991

Boonton Radio Corporation
Summer 1991

We finish the series this time with

the story of Measurements Corporation, as it was told in 1950.

Still another important member of Boonton's electronic group is Measurements Corporation, research and manufacturing engineers of a world-famous line of electronic measuring equipment. The story of the formation of this company must too be evolved from the former association of its founders with other local laboratories. These founders, Jerry B. Minter and John M. van Beuren, both still active in Measurements Corporation, were employed by the Ferris Instrument Corporation until early in 1939 when they left that organization to form their own company, Microvolts Inc.

On April 10, 1940, the Microvolt name was dropped and the new concern became Measurements Corporation as it is known today. New quarters were secured in a local building that had formerly been used as a doll factory and it was here that the first "Laboratory Standards" of Measurements Corporation were produced.

Laboratories, manufacturers and governmental agencies began to specify Measurements equipment in their requisitions because of its excellent quality, so before long the new company outgrew its plant facilities. A tract of land on Intervale Road, Parsippany, near Boonton, was purchased and a long frame building, known as Unit One, was constructed. Here signal generators, field strength meters, vacuum tube voltmeters and other precision electronic instruments were developed and manufactured in increasingly large numbers.

In 1941 a pioneer in the radio

industry, Harry W. Houck, acquired an interest in Measurements Corporation. Mr. Houck had been associated with various branches of the industry since 1910 and had gained prominence for his collaboration with Major Armstrong in the development of the super-heterodyne receiver and for his patents on the battery eliminator, vacuum tubes and varied electronic circuits.

During the war every engineering facility was directed to the production of critical equipment and it became necessary to expand into an abandoned school on Harrison Street, an idle automobile showroom on Main Street and a silk mill on Monroe Street, all in Boonton. Measurements' personnel increased to several hundred workers and the company can be justly proud of the contribution it made to the war effort in vital equipment so necessary for the maintenance of communication services, radar and the development of highly secret electronic devices.

After V-J Day the Monroe Street plant remained as the headquarters of Measurements Corporation and all activities were concentrated in the production of FM and television signal generators as well as test equipment for micro-wave relays, airplane navigational systems, mobile radio and countless other electronic applications.

In the Fall of 1948 ground was broken adjacent to Unit One for a modern plant, the new home of Measurements.

The new building is now com-

(Continued on page 26)



This display is a re-creation of one that was shown in an Atwater Kent Radio Dealer Helps for 1927-28 catalog to advertise the advent of the "One Dial" Atwater Kent Radio. The screen, the "One Dial" flashing lamp, and the Atwater Kent Model 35 were all obtained in their original condition, each from a different source.



The Adams-Morgan Company manufactured the 3-tube regenerative Paragon III A late in 1923 by Paul F. Godley. The most unique feature about the III A is a movable filament pin arrangement which allows for the use of a mix of 201-A's, 199's and WD-11's. Shown by Ron Frisbie of Akron, PA.



*Ernie Hite receives the Houck Award
Presented by Gilbert Houck*



*Harry Houck Award Winner—Ernie Hite
Fenway Superhet*

(Continued from page 23)

pleted with over 25,000 square feet of floor space utilized for laboratories and production departments. Radiant heating, air conditioning and expertly engineered lighting, plus the finest tools, equipment and instruments assure every modern convenience for the comfort of Measurements' personnel and the efficient production of the company's line of "Laboratory Standards." Measurement Corporation has been the first to develop and commercially produce many important instruments including the first signal generator with built-in tuning motor; a field strength meter usable above 20 megacycles; a signal generator for testing high frequency receivers; the first UHF signal generator with a self-contained pulse modulator;

an FM signal generator covering the present band; the first wide-range grid-dip meter and the first commercial wide-band, wide-range television signal generator.

The officers of Measurements Corporation are John M. van Beuren, chairman of the board and chief research engineer; Harry W. Houck, president and general manager; Jerry B. Minter, vice-president and chief engineer.

The area's electronic industries are as important to Boonton and nearby communities as their instruments are to the electronic art. With a total personnel of over 500 skilled workers, the annual payroll represents a very sizeable portion of the industry's volume of sales totaling many millions of dollars yearly.

People's Choice Award: PHILCO Display by Michael Prosise

The Old Equipment contest is always one of the main highlights of any radio convention. It is here that our fellow radio collectors can exhibit and see some of the finest examples of old wireless "sets" that our hobby has to offer. The honor of receiving an award helps make the radio that much more special to its owner and the hobby itself more rewarding.

For me, receiving the People's Choice Award for my display of PHILCO's handpainted "flower" radios of 1928 was a personally meaningful moment, as it brought

back to memory a special time in my childhood during which I first became aware of the name PHILCO and interested in old radios.

Beginning in the early 1950's, it was a tradition in my family to spend Sundays at my Grandparent's. Like any young boy at age four or five I enjoyed running around outside and "getting into things" while the "grown-ups" sat around inside. Often while playing I had noticed some sort of wire my Grandfather had strung along the side of the house, looped along

about three feet off the ground and wrapped around these odd shiny white things (porcelain stand-offs). One day while standing there, quite curious, I reached out to touch the wire. Upon grabbing it I felt a sharp tingling sensation that shot through my body from my fingers to my bare feet. My first reaction was to run into the house where I tried to explain about the "wire thing" that had just "stung me like bees". Well, everybody followed me outside to see what mischief I had stumbled into. As it turned out, the wire was an antenna connected to a 1934 PHILCO model 66, a "tombstone" style table-top radio. One might say that this early incident in my life was what "sparked" my interest in radio. From that moment on, I became quite curious about and frequently played with the old PHILCO and its neat hexagon knobs. I found myself looking forward to Sundays, where I enjoyed spending time trying to tune in distant lands on the short-wave band. That old PHILCO sat in my Grandparent's living room until it was given to me in 1968, still working fine. Within a few years, however, my interest in old radios was becoming suppressed by a new interest: a fast car and a pretty girlfriend, the "spoiler" of many a young teen's hobby.

The PHILCO collection pictured in this edition of ARCA's Gazette was begun in April of 1987, shortly after my interest in old radios was renewed by an unexpected encounter with an antique radio display at a local shopping center by the Mid-Atlantic Antique Radio Club. I joined the club that very day, and through them learned of

an upcoming Auction of old radios. Advertisements for the Auction claimed that the contents of a former radio repair shop, closed and locked for some thirty or forty years, would be auctioned off. The old store was situated next to a railroad yard, which altogether sounded rather intriguing, and so I decided to attend.

It was at this auction in 1987 that I acquired my first PHILCO "flower" radio, the greyish-black model 513. Standing in the crowd of anxious buyers at the auction, I had observed one of the assistants emerge from the old store with this very dirty black box. It appeared to have knobs on it, but it was so heavily coated in train soot that no one could tell exactly what it was. The assistant took a rag and wiped away an area on the top, commenting that some sort of painted design was evident, adding also that yes it was some kind of radio. I felt an odd attraction to this rather ordinary and dirty looking "box" radio. I pushed forward to get a closer look, and saw barely discernable through all the dirt, the faded hint of a beautiful floral design. I immediately felt that there was something special here, some untold story. As he lifted the lid, revealing the interior, my eyes caught the word PHILCO with a large lightning bolt through the letters. At that instant a nostalgic memory of a little boy at his Grandparent's playing with an old PHILCO radio came to mind. I knew then that this radio before me had to be mine. And so began what would eventually become a unique collection of rare PHILCO radios. At the time I had no idea

(Continued on page 30)



The People's Choice Award. It took the show by storm.

SEE STORY ON PAGE 26.

(Continued from page 27)

that there existed other colors and designs in this series, or even that they were from PHILCO's first year of radio manufacturing. I established a goal to try and acquire all five of the radios, their matching speakers, and to learn as much as possible about the history surrounding these unusual sets and the early PHILCO company.

Through research of old books, PHILCO notes, and interviews with former PHILCO employees (including a gentleman who worked there in 1928), I have been able to assemble a thick notebook of historical information on PHILCO's early years. As regards the development of the hand-painted "flower" radios and their decision to get into the radio business, I learned that by the Fall of 1927, the Philadelphia Storage Battery Company (PHILCO) was seeing its sales of batteries and battery eliminators ("Socket Power Units") drop sharply due to the introduction of the AC tube. As was reported in the *PHILCO Hi-Hat News* (Vol. 5), "PHILCO had to roll up its sleeves immediately and go into the radio business."

They designed their own chassis, employing a neutrodyne circuit licensed from Hazeltine Laboratories, and then purchased the Timmons Company in order to obtain a speaker for the radio. PHILCO entered the market in May of 1928 with a line-up of eight radios, three of which were consoles. It was also decided that brightly colored and finely decorated metal cabinets might be a way to get the attention of the consumer.

The radios in my display were those other five models that comprised PHILCO's first radios. This set of five became known as the "511 series." The cabinets and floral designs were handpainted by twenty-five or so young artists from the Philadelphia School of Design for Women under the direction of Ms. Matilde Messaros, an artist who was hired to be responsible for creating the designs and selection of the colors. A PHILCO book states that "hundreds of designs were tried".

During an interview with Ms. Messaros in 1977, by Mr. William Denk, a former patent attorney for PHILCO, Ms. Messaros explained the long and tedious procedure for painting each cabinet. According to Ms. Messaros, each cabinet received a base coat of enamel paint that was followed by a darker shade of the same color. This darker color was applied as a "surround" and blended in with the lighter central area to give a two-tone effect. After a day or so for drying time, the cabinet went to a "striper", the person who applied the gold stripes. That required a steady hand. In the final stage, the cabinet went to the artist, who used a pin-hole stencil to mark the outline of the design on the cabinet. This was done by holding the stencil to the cabinet and then patting the stencil with a porous bag of chalk powder. This technique allowed for a faint outline of the floral design. Using oils, the artist would then do the actual painting of the floral design. After drying, the cabinet received a protective coat of clear varnish.

A PHILCO specification sheet, dated 1928, indicates that a total of

68,850 metal cabinets were purchased by PHILCO, and at a cost of \$1.14 each. How many of these actually ended up as one of the handpainted series is not known at this time. The actual styling and shape of the metal cabinet was created by Hollingsworth Pearce, a leading interior decorator at the time. A PHILCO specification manual shows that his design was accepted on March 10, 1928, and further shows that production of the cabinets began on April 13, 1928. Sales of the "Neutrodyne-Plus" radios began shortly after

the release of the first Dealer Price Sheet on May 1 of 1928, all of which helps establish the year 1928 as PHILCO's first year of radio manufacturing and sales, and not 1927 as has sometimes been reported by others.

I intend to continue my research into the early history of PHILCO, and would welcome hearing from anyone who has knowledge of PHILCO, circa 1906 to 1928.

Look forward to future articles on Philco by Mike.

1992 EVENTS CALENDAR

WE NEED YOUR HELP!

With your help, it is our intention to publish an entire year's event calendar in the winter issue of the Gazette. There are so many conventions, extravaganzas and swap meets that we need to plan our vacations and weekend work schedules a year in advance to enable us to attend the maximum number of events.

This may also help to eliminate many of the conflicts we are now experiencing with the duplication of events on the same date.

Please do not include such items as Board meetings or just general membership meetings.

The number of planned open events for next year will exceed 200. If each affair averages just 2 days, this will exceed 400 event days for 1992.

Some of the major events for 1992 have been booked, and I have listed those to help keep conflicts with these events to a minimum.

Remember, the deadline for this information will be November 15, 1991.

Let's all work together to bring as much enjoyment as possible to our collecting society.

Major Event Dates For 1992 Currently Scheduled:

<u>Name of Organization</u>	<u>Location</u>	<u>Date</u>
Antique Radio Club of America	Pittsburgh, PA	June 4-6
Michigan Antique Radio Club	Lansing, MI	July
Antique Radio Club of Illinois	Elgin, IL	August
Antique Wireless Association	Rochester, NY	September
Mid-Atlantic Antique Radio Club	The Lyon Farm, MD	October

Forward To:

ARCA-GAZETTE

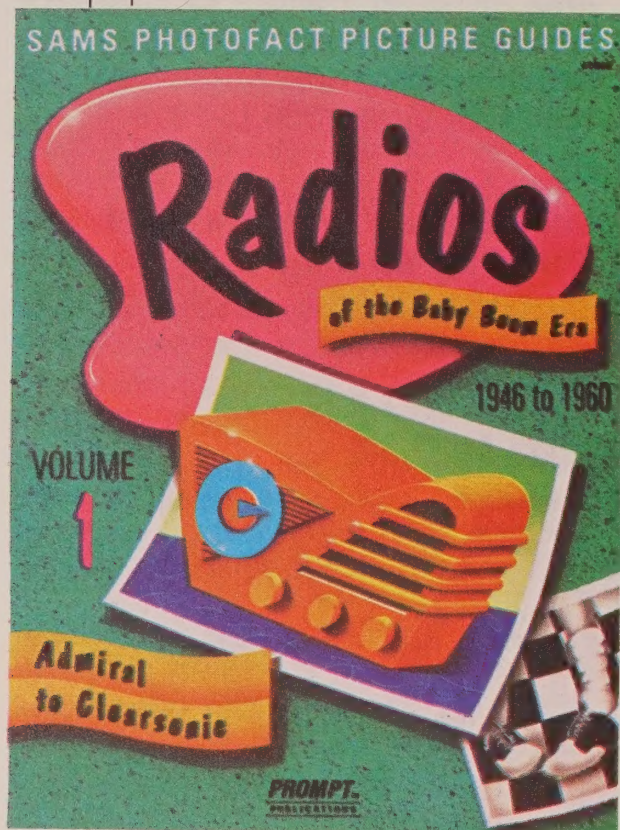
4204 Thorn Apple Lane
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***Thank you,
Publication Staff***

Radios of the Baby Boom Era

Vol. 1-6 — Admiral to Clearsonic, 1946-1960

Collecting Classic Radios. Collecting has been a distinctly American passion. It's a passion partly to possess things which have significant meaning to us, partly for financial gain, and partly for the thrill of the hunt. The amount of money invested or, indeed, the overall worth of the collection are strictly side issues. The real thrill of collecting is to possess a piece of the past. The real value of a collection is assessed in the satisfaction gained through the collecting process.



For years, collectors have focused on pre-World War II radios, some of which brought great emotional and financial rewards to those who pursued them. Unlike the pre-World War II sets, most radios of the baby boom era are still in relatively plentiful supply, creating the opportunity to get in on the ground floor and build an extremely diverse collection which will bring years of pleasure.

To get started in collecting, you can join a national club such as the Antique Wireless Association or the Antique Radio Club of America, or find a local antique radio club and start haunting their swap meets.

Subscribe to publications such as *Antique Radio Classified* and *Radio Age*, and get on the mailing lists for Antique Electronic Supply and for Vintage TV & Radio.

How To Use This Book. *Radio Photos* The old radios themselves are the "stars" of this series, and you'll learn a lot just by browsing through the hundreds of pictures. If you know what a radio looks like but not the brand name or model number, perhaps you'll recognize it among these photos. With each picture, we furnish a description and basic technical information that helps in classifying the radio.

Indexes The indexes provide a wealth of useful information cross-referenced to the pictured radios. If you know the model number of a radio, you can look it up to find out on

which page it or a similar model is pictured, which tubes it uses, and which tubes would be suitable replacements. If you know the manufacturer of a radio but not the brand name, there's an index that summarizes all the manufacturers and brand names of the period.

Fix-Up Information Because the purpose of this series is not only to list radios, but also to help in restoring them to operating condition, we provide a basic troubleshooting guide for working on tube radios. We also help you find sources for parts, collector's information, and radio restoration aids. There's a schematic of a typical 5-tube radio to help you understand the circuitry.

We hope you enjoy reading and using this book as much as we did bringing it to you. For those of us who appreciate what radio has accomplished over the years, it was a labor of love. Happy dialing!

Each volume is 8½x11—over 300 pages with pictures and data.

ORDERING INFORMATION: \$16.95 PB Plus \$1.50 shipping and handling.

Collect all six volumes of this unique series, made to order for radio fanciers, collectors, hobbyists, fix-it-yourselfers, and nostalgia buffs. Vol. 1—Admiral to Clearsonic; Vol. 2—Co-op to Geloso; Vol. 3—General Electric to Monitoradio; Vol. 4—Motorola to RCA Victor; Vol. 5—Realtone to Stratovox; Vol. 6—Stromberg-Carlson to Zenith.

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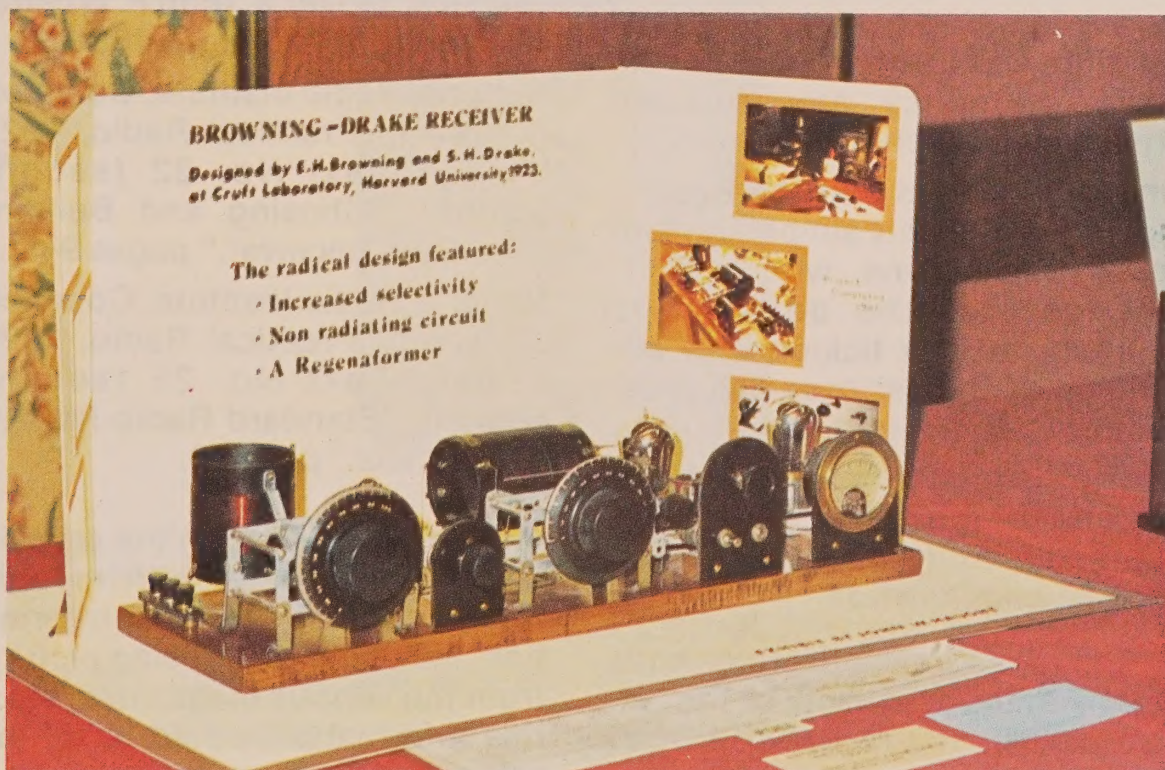
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Geoff Bourne, President of W. Va. Chapter ARCA and President, Museum of Radio & Technology presents the People's Choice Award to Michael Prosise from Daisy, Maryland.

Story on page 26



***BROWNING-DRAKE RECEIVER**—Designed by E. H. Browning and S. H. Drake, at Cruft Laboratory, Harvey University, 1923*

Story on page 34

BROWNING—DRAKE RECEIVER

Designed by E. H. Browning and S. H. Drake

By John Haught

During the early and mid twenties, circuit improvements were in line for more scientific designing to secure as much efficiency as possible for each vacuum tube that was used in a receiving set.

One scientific circuit design that became popular during the era of early radio development was the Browning-Drake circuit developed in the Cruft Laboratory at Harvard University by Glenn H. Browning and F. H. Drake.

Accordingly Browning and Drake worked together at Cruft Laboratory for almost a year, collected considerable information, resulting in the development of a "slot" winding with which 90% of the radio frequency amplification predicted was actually obtained.

One will observe that the Browning-Drake circuit is simply the well known neutrodyne, with the difference that the detector is equipped with a tickler. The advantage of the set over the usual neutrodynes is a triple one.

1. The "neutroformer" (called a regenaformer) is very well designed and therefore gives unusual amplification.

2. The regenerative detector adds greatly to the sensitivity of the set; also permits the reception of CW signals.

3. There are only two tuning controls, the third control being a tickler which does not need to be

moved every time the tuning is changed.

After securing (at ARCA annual Trader's Market) all the required components, I assembled the parts as per exhibit photo, and was quite exuberant when I received my first reception, KDKA, the pioneer radio broadcasting station.

For those interested in the Browning-Drake circuit, the following reference material was used in building the receiver:

QST Magazine, 1925, Page 21, author Glenn H. Browning.

Radio Construction and Repairing, James A. Moyer & John F. Wostrel, Copyright, 1927, Pages 153-166.

National Radio Institute, Complete Course In Practical Radio, 1927, Lesson Text No. 22 (second edition), "Choosing and Building Your Own Receiver," pages 9-17.

National Radio Institute, Complete Course In Practical Radio, 1929, Lesson Text No. 23 (second edition), "Standard Radio Receiving Circuits," page 20.

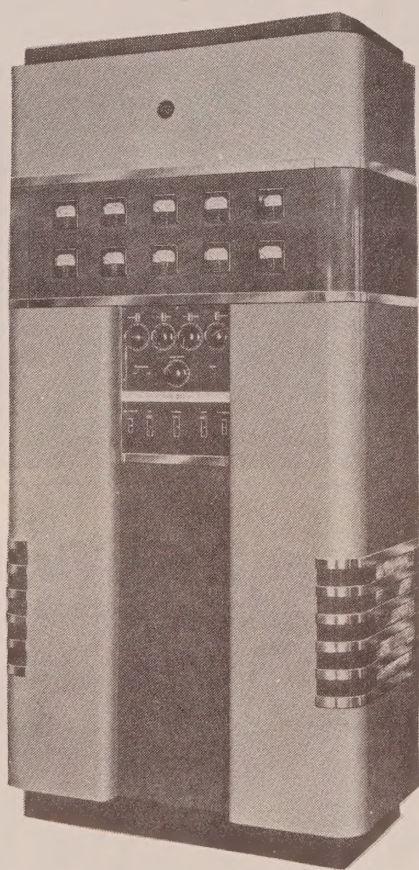
I made a "booklet" on the set prior to building the set with my own reference drawings and information, including advertising pictures from the various magazines, etc. If this information would be of any value, please let me know.

Sincerely, John W. Haught, 5268 Webb Street, Aliquippa, PA 15001, (412) 378-4026.

WANTED

DEAD OR ALIVE

TRANSMITTER ALERT!



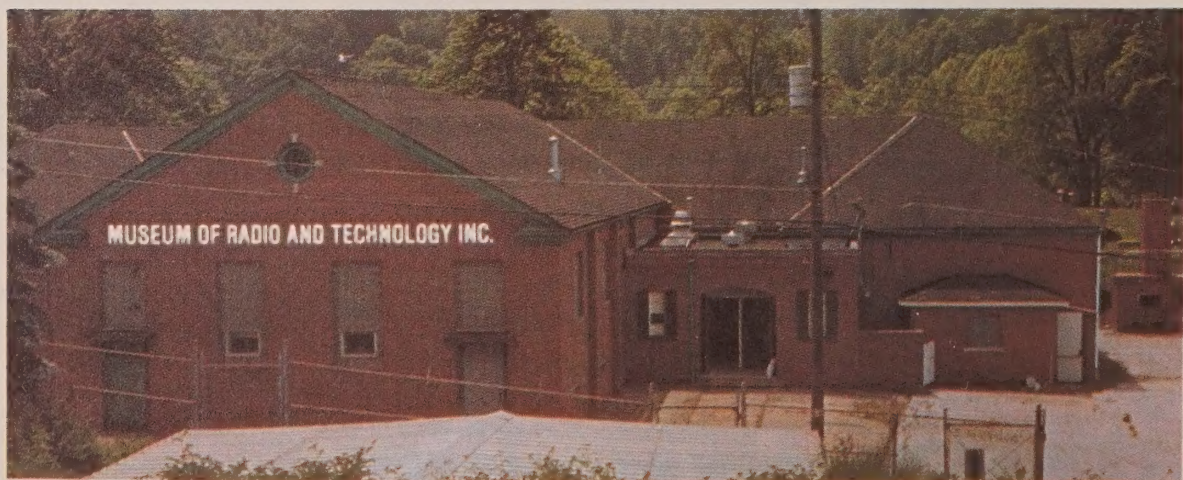
The Museum of Radio and Technology is looking for one nice RCA 250-K for our broadcast display. We are looking forward to the day we can relocate a complete studio and go on the air. Help us locate one of these. Contact Geoff Bourne at (304) 722-4690.



MODEL #67
ZENITH: This is a 1931 Zenith Model #67, in a Cherry Wood Cabinet. Enclosed in the cabinet is a circular antenna controlled by the large round knob on the bottom of the set. When turned it locks your station in place. It has a thumb dial, with controlled turning in a hideaway panel to the right. The radio was found in a logging camp in Maine.

News From West Virginia

By Zane W. Parsons



Well, we did it! We had the first meet at the Museum of Radio and Technology on July 6th. We wish to extend profound thanks to everyone who helped in this project. We

had visitors and participants from at least eight states. There was some good equipment available in the traders market, and I saw some good buys (and trades) take place.

Several new museum members were signed up and A.R.C.A. gained membership at our registration table. Tours were conducted to a privately owned museum located nearby. Everyone that I spoke with following the tours had high praise for this bonus attraction. Among interesting items too numerous to mention, members saw a very old, and rare Western Electric washing machine. Special thanks to Mr. and Mrs. Micheal Perry for their interest and gracious hospitality. We also welcome them as members of Antique Radio Club of America and the Museum of Radio and Technology.

The National Railway Historical Society had its national convention in Huntington August 7-11, registering over 2,000 delegates. We invited its members, and greeted some out of state as well

as local railroad buffs. We were also visited by some out of state and local amateur radio operators who were attending a Tri-state hamfest in the Huntington area.

Remember, October 5th, come on over, up or down, and let's make each meet bigger and better as time marches on. Don't let rainy weather keep you away, there is room inside for a good sized traders market. The facility is here and we are gaining on our display work, so those of you within traveling distance to a weekend mini-meet, we say that with your participation this will be a collectors dream come true, as well as a great place for those wanting to reminisce or youngsters wanting to see a part of history. That's all for now; hope to see you at one of our future meets.

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Heroes of the Wireless

PART I

By Larry Babcock

The days of radio before broadcasting began were most exciting. This was particularly true for the men at sea, the wireless men who maintained contact with stations on land and other ships. These operations continued for well over a decade and in fact were the primary reason why Britain was so slow to implement radio broadcasting. They felt that broadcasting of entertaining messages to all listeners would interfere with these more legitimate uses of the airways.

It was one of the unwritten laws of the sea that the wireless man, along with the the captain, was the last to abandon his ship. By 1912 more than one hundred wrecks had occurred throughout the world to ships which carried wireless equipment. In every case the wireless operator did his duty. There was no record of any operator ever being cowardly no matter what the circumstances.

In earlier days men had always looked to the captain for help in the time of disaster but the wireless radio changed all that. In 1912 when a ship was disabled everyone looked to the wireless operator. He had the difficult task of keeping his wits about him and operating his delicate equipment with a steady hand no matter what the danger.

An episode occurred on the Great Lakes September 9, 1910 in which a wireless operator named C. S. Sczpanck lost his life. The ship was thought to have been one of the safest afloat. She was a

mammoth ferryboat used for transporting railroad cars between Milwaukee and Ludington, Michigan. The total distance was just over a hundred miles and the boat was constantly passing other vessels in the same fleet. She was simply named "Number Eighteen". It had hardly seemed necessary to install wireless equipment. No one could imagine danger to this immense ferry on a small body of water such as Lake Michigan. Her deck was like a railroad yard. Trains were rolled smoothly aboard with passengers comfortably seated in their parlor chairs.

The crash came with the ship about 29 miles from the Wisconsin shore. The Captain rushed to Sczpanck with the almost unbelievable news that the ship was sinking! Sczpanck had just informed Milwaukee that they had crossed the lake and were nearing port. Within a few minutes he had picked up a nearby sister ship, ferry "Number Seventeen". C.Q.D. (Distress Call) was broadcast and received by several ships and by the ports on both sides of the lake. Relief boats were dispatched to assist. It seemed incredible that danger existed with so many helping hands almost in reach!

But the heavily loaded freighter had received a mortal wound and was filling rapidly. It was soon obvious that she would not stay afloat until her sister ship, racing at full speed, could make it to the scene. Ship officers ran through the trains telling passengers to

report on deck and take to the boats. When the passengers reached the decks they were already partially awash. The first boat was filled with women and children and got away safely. Others followed. Meanwhile in the wireless cabin Sczpanck continued sending out the C.Q.D. over and over in hope that a nearby ship would pick them up. Room was found for all but four in the lifeboats. The three officers and the wireless man remained on the ill-fated ferryboat. When the sister ship arrived, only the lifeboats remained. The ship had disappeared. Never was a wreck more unexpected. No one had given much thought to such a danger on this narrow lake but when the test came, the officers and the wireless man remained calmly at their posts and went down with their ship.

On August 26, 1911 the ship "Ohio" was carrying 200 passengers on her regular run between Seattle, Wash. and Valdez, Alaska when she struck a rock in the Finlayson Channel.

This was the worst possible position for a wreck. The nearest land was the coast of British Columbia. It was bleak, forbidding, and sparsely populated. The OHIO was crowded, which made the work of rescuing 200 passengers in the few lifeboats extremely hazardous. It was immediately obvious that the ship was doomed. The boat could only remain afloat for a few minutes. The wireless operator, George Eccles, sent out the distress call over the lonely waters with little hope of success.

The crew worked with frantic haste to launch the lifeboats. There was

a high sea and the ship, partially impaled on the rocks, was alternately being lifted up and tossed down by the waves. This made the work of disembarking more difficult. The wireless call continued steadily and after a few minutes was picked up by the shore station at Ketchikan, Alaska. It instantly responded and then in turn retransmitted the call over a wider area.

The Alaskan station was high up on a snow-clad mountain and therefore unable to send any direct assistance. Still just knowing that contact had been made with land helped. The panic-stricken crowd on the deck grew smaller as boat after boat was lowered into the stormy sea. During this time the wireless operator continued sending the distress call without interruption. Throughout the awful half hour Eccles never left his station. Before the last lifeboat was lowered the Alaskan station notified the stricken ship that she had contacted two steamers, the HUMBOLT and the RUPERT CITY and that both were heading toward the damaged vessel.

This good news was shouted down to the decks from the wireless cabin and then across the open waters to the lifeboats. The sea was high but the lifeboats were in no immediate danger. Things were not so good on board the OHIO. With each wave the hull was bashed against the rocks so that she would not survive for long. The water in the vicinity was very deep and there was the imminent danger that the ship would slip off at any moment and rapidly sink to the bottom.

In the wireless cabin Eccles was

still continuing his calls as the relief ship approached. He calmly gave them the OHIO's exact position and warned them about the danger of nearby rocks. Twenty minutes after the accident, the rising waters had reached the engines and the dynamos died down. Only then, when the wireless had become absolutely useless, did Eccles leave his cabin and go to the deck below. It was now awash and was rising and falling violently with the action of the waves.

All two hundred passengers had now been placed in the lifeboats and were safely clear of the ship. With the first of the rescue ships

now in sight, only Eccles and four others remained on board. For the moment it seemed that all were to be saved. The passengers and crew began cheering over their escape when a mammoth wave, more powerful than the others suddenly lifted the OHIO clear of the jagged rocks and quickly drew the hull beneath the water. In thirty minutes the two hundred passengers and crew had been saved, while the man whose courage had made the escape possible stood manfully at his post and went to his death.

Ref.: "The Wireless Man" by Francis A. Collins, October 1912.

This story continues in next issue.

The WLW 500 KW Transmitter

PART I

By Clyde Haehnle and Ed Dooley

Powel Crosley, Jr. was born in Cincinnati, Ohio in 1887 and grew up in the College Hill area of the city. Around 1921 he became interested in radio when the first broadcasting stations went on the air. He decided to buy a radio receiving set, but when he discovered that the cost of a commercial receiver was \$130, he bought a book describing how to build a set. When he built a crystal set and began listening to the few stations then on the air, he was dismayed at the irregularity of broadcasts and the poor quality of programs available. At this point he decided that the presently available radio receivers were too expensive and that there were few broadcast stations which could be reliably received in the Cincinnati

area. Thus began, almost 70 years ago, Mr. Crosley's pioneering career in radio broadcasting which gave birth to many innovative concepts in both engineering and programming.

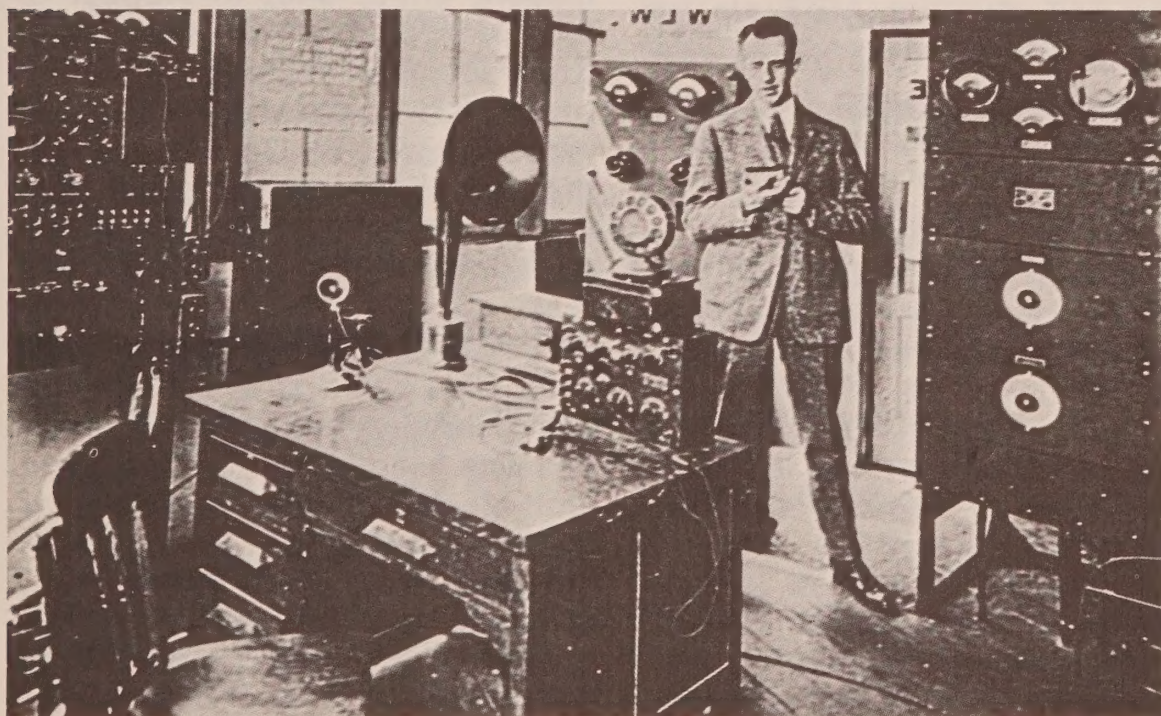
In the spring of 1921, he built a small 50 watt broadcast transmitter, and in July of that year he was granted an experimental license with the call letters 8CR. His first broadcast with this transmitter was from the living room of his home. He played a phonograph recording of "Song of India" several times and asked that anyone hearing the program send him a postcard. When he received several responses including one from a man living on the eastern side of Cincinnati, and later one from Troy, Ohio, he was encour-

aged to continue his experiments. He began to foresee a nation dotted with powerful broadcasting stations, through which, at all times of the day or night by a twist of the dial people could bring into their homes a variety of entertainment, music, and information programs. He also saw the need for lower cost radio receivers.

Mr. Crosley continued his experimental broadcasts and a few months later moved the transmitter to his family's phonograph cabinet manufacturing plant on Blue Rock Road near Knowlton's Corner in Cincinnati. In March 1922 he received authorization to increase power from 50 to 500 watts and the call letters WLW were assigned. At this time the station was assigned two operating frequencies, 833 kilohertz and 619 kilohertz. The higher frequency was to be used for entertainment programs, and the lower frequency was for weather and farm information. In 1923, he consolidated his broad-

casting projects through the formation of a new company, the Crosley Radio Corporation.

As the broadcast station grew, it was moved to Alford Street and in January of 1925, power was increased another ten-fold to 5,000 watts. This transmitter was put into operation at Harrison, Ohio, 22 miles west of Cincinnati. This was the first remote transmitter location to be used in broadcasting. Up to that time, transmitters were co-located with the broadcast studios. On July 1, 1927, the station was granted use of the 700 kilohertz frequency and on May 25, 1928, the Federal Radio Commission, predecessor of the Federal Communications Commission, granted authority to construct a 50,000 watt transmitter. Five months later, on October 4th, a new 50 kilowatt Western Electric transmitter was put into operation at Mason, Ohio, 25 miles north of Cincinnati, where station WSAI, also owned by Crosley, was already in operation.



Scene from transmitter room. Powel Crosley at Alford St., TX

Powel Crosley, Jr. also built radio receiving sets at his manufacturing plant where he incorporated the mass production techniques of Henry Ford to build them as economically as possible. His business philosophy was to market these low priced radios so they could be afforded by families with modest incomes. When he started production, he used mostly men for the assembly work, but soon found that women had better manual dexterity. Most of the production line work was then turned over to women.



Description plate from original transmitter

Mr. Crosley hired the most competent engineers available and maintained a development lab where his radios and broadcast equipment were designed and built. Two of his design engineers were Mr. E.J.H. Buzzard and Mr. Russell Blair, who remained with the company for many years.

To improve the performance of the low-cost receivers, Mr. Crosley recognized the need for higher power transmitters. In the early 1930's he began dreaming of another ten-fold increase in transmitter power to 500,000 watts. He contacted the RCA Victor Company of Camden, New Jersey. RCA did not build transmitters at that time so they subcontracted the work to General Electric and Westinghouse.

For the WLW transmitter, General Electric was responsible for design and construction of the radio frequency amplifiers, DC power supplies, high voltage rectifiers, harmonic filters, RF transmission line, antenna tuning equipment, control systems, and control console. GE engineers assigned to the project were Edward A. Leach, George W. Fyler, and Ray H. Williamson.

Westinghouse was responsible for the audio frequency amplifiers, modulators, modulation transformers, filament supplies, isolation switching, motor generators for control circuits and bias, water pumps, heat exchangers and the entire cooling system. Westinghouse engineers assigned to the project were John A. Hutcheson and Gerald V. Bate. RCA was responsible for coordinating all the subcontractors.

The design and construction began in January 1933 and the components were shipped to the Mason, Ohio, site, in August of that year. During that time, Blaw-Knox designed and began erection of the 831 foot cantilever guyed vertical tower. By December 1933, the amplifiers were installed and tests were conducted during the experimental period of 1 A.M. to 5 A.M.

The 500,000 watt transmitter was completed and first went on the air commercially on April 17, 1934 and was used in regular operation until March 1, 1939 when Senator Burton Wheeler of Montana railroaded a resolution through the senate limiting the power of commercial U. S. broadcast stations to 50 kilowatts. This was done on behalf of Mr. Ed Craney, one of his

constituents, who owned a 250 watt station and wanted 50,000 watts on 700 kilohertz. From 1939 to 1943 the 500 kilowatt transmitter was operated experimentally from midnight to 2 A.M. each night. In 1943, it was shut down to be dismantled and shipped to Australia at the request of the U. S. government. Although some of the components were removed, the dismantling was halted and most of the transmitter remains intact today at the Mason, Ohio site.

The main 500,000 watt transmitter unit is 75 feet wide and 15 feet high. There are three power amplifier cubicles, two modulator cubicles, and a rectifier cubicle. In the back of the transmitter are pairs of metal lined wood doors providing access to the rear of each of the six cubicles. The power amplifier doors provide access to the output coupling helix, the faraday shield, and the variable plate tank coil. The plate tank capacitor is fixed tuned and constructed of grids of 1" aluminum pipe. The control circuit relays are panel mounted in the rear of the rectifier cubicle.

Since a Western Electric 50 kilowatt transmitter was already in use

at the station, it was decided that the 500 kilowatt unit would use the Western Electric unit as a driver. When the 500 kilowatt transmitter was in use, the 50 kilowatt modulator section was isolated, and the unmodulated 50 kilowatt RF amplifier was fed into a load and part of the RF signal was used to drive the 500 kilowatt RF amplifiers.

The 500 kilowatt RF amplifier consisted of three separate amplifier units with their inputs in parallel and their outputs in series, with switching capability to permit isolating one or more of the units. Each RF amplifier contained four type UV-862 triode tubes, with each tube rated at 100 kilowatts plate dissipation, operating in a push-pull-parallel Class C mode. The three RF amplifiers were high level plate modulated by two modulators, each with four 862 triodes in a push-pull-parallel Class B mode.

The high-voltage rectifier was three-phase-full-wave, incorporating six 870A mercury arc tubes rated at 60 amperes each.

This story will continue in the next issue.

WHERE'D I PUT THAT WD11? Organization Of A Private Vacuum Tube Collection

PART I

Paul C. Crum

In the collection of antique radio/wireless, equipment, one must decide two things: Where and when to begin, and how far he will continue.

My own collection — with the exception of certain larger, heavier pieces, which are kept in the basement — is contained in a small upper bedroom. This, as other

things in the town house to which we have retired must be very space-efficient. This room, which is understandably referred to as "the den," must share my collection with several other areas of interest, including a ham station, various automobile memorabilia, and aviation. There is also the word processor, which is the main workhorse of present activity.

One non-electronic thing had to be considered in assigning space in the den: Because accommodations are somewhat "vest pocket," and because we have a number of friends who may seek bed and board overnight, a sofa bed occupies one wall. Out of consideration for our guests, the master bedroom is given over to them, and my spouse and I occupy this modest sleep accommodation.

Although sleep accommodations here are really not too bad, this is probably the only "bedroom" in the country where the master of the house (a euphemism, if I ever heard one) can tune a De Forest interpanel receiver (with his toes) without getting out of bed. The pride of my collection fleet, the IP-500, with its six inch German Silver dials, shares the shelf above the De Forest, with a Kennedy 110. From this, one can appreciate the space limitations for an antique radio collection at this location.

One of my few claims to an orderly way of life, is my dedication to an orderly progression in all things. As with many other collectors my early tube collection shared various containers. Shoe boxes. Cigar boxes. And in a few instances, actual tube cartons. Obviously, some organization was required.

An old friend, Leo Gibbs W8BHT, came to the rescue. Leo had spent many years in the vacuum tube department of Wright Air Force base at Dayton, and shared my interest in tube collecting. A cabinet maker had made several custom made cabinets for him, and he sold me one. These were 36 inches high, and 24 inches wide. The glass front extended six inches out from the wall. Shelves were formed from $\frac{3}{8}$ inch thermoplastic sheets. Because it was desirable to have the tube bases show, holes for the bases were cut with a fly cutter, the size of the bases, then the holes were sawed down their middles, so that tube bases were placed in the semi-circular holes, and fastened with binder head machine screws, screwed into the front of the shelves.

Because I have spent most of my life in a rather lackluster career in broadcasting, six transmitting tubes are included in the display, and are arranged in an arc across the top of group. Three each of RCA and Western Electric such transmitting tubes common in the early days of broadcasting, are included. In line with the practice of rating such tubes at the time, each has one each "Five watt," "Fifty watt," and "Two hundred fifty watt tubes in their display.

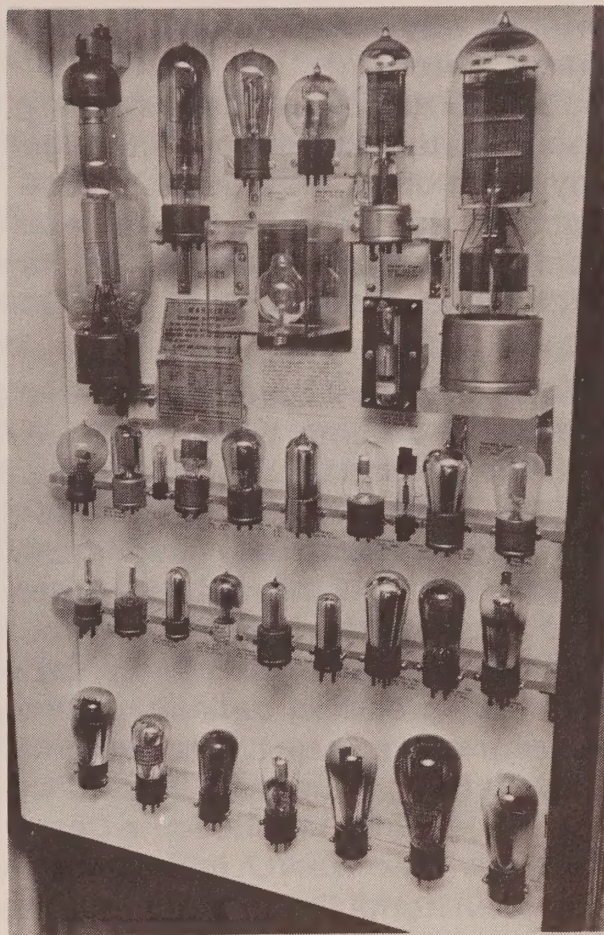
Mounting these transmitting tubes required much more work. Due to space limitations, no sockets were used for mounting these, and various mountings were fabricated from heavy thermoplastic sheets. "Clip" sockets for the 204A were available, and held it nicely in place.

From my modest station in life, I could not approach my collection from the position of either academic excellence, or the great volume and experience of either Tyne or Dowd, but it seemed that there had to be at least some reason for calling myself a collector. Because of this, I have assembled my small collection with the idea of visually telling the story of the vacuum tube, from its beginning — the De Forest era — to radio's association with Commonwealth Edison.

Before going any further, I should attempt to avoid argument by stating that, of course, I am aware that in the descriptions of the various tubes in my collection and their characteristics, most of my readers already know these characteristics, and my comments are not meant to inform, but to indicate why these tubes were included in my collection.

It should also be stated that no collector in his right mind, would write an article in which he did actually claim anything. In reviewing a rather extensive library of antique wireless/radio, as well as that of other mechanical and electronic material, I find that determining who did what, and when, becomes a very uncertain matter. It is usually pointed out early in a lecture, that it is almost impossible to say who actually was the first person in any given area.

For instance our kids are taught that Alexander Graham Bell invented the telephone. Although I believe Alexander was quite a guy, one finds that a German supposedly had the telephone years before Bell. In another of my



*Organization Of A Private
Vacuum Tube Collection*

interests when we are discussing Orville and Wilbur, we hear that in a South American country there is a model on display that supposedly predates their accomplishment. I am inclined to argue this point, however, for the contraption in which I soloed (no brakes, and a "panel" that included an altimeter and air speed indicator) must surely have been very early in aviation history. I expect any day now, for some character to claim that Hannibal had omni range navigation on two of these elephants, that permitted him to find a hidden pass through the Alps.

Because every collection must begin someplace, this is my long

winded way of timidly saying why I have selected the De Forest spherical audion as the first in my receiving tube collection. Although my claim of it being the first triode vacuum tube, may not have been accurate, certain practical matters dictated my selection of the De Forest audion.

In an excellent and informative article in Volume V, of the AWA Review, Thomas H. Briggs IV, tells of the Von Lieben triode that actually predated the De Forest tube. Although this may be true, and I am not technically correct, space limitations in my display, mentioned earlier, definitely were in favor of De Forest. It is said that although Von Lieben's tube was later somewhat reduced in size, his early tube was 17 inches high. Several items in my collection have been large enough to drain the patience of my wife, to the absolute limit. Being a fan of things gastronomic has figured greatly in the selection of my tube. For, with a considerable experience in various eateries, ranging from Pete's Squirrel cage, on the lower level of Michigan Avenue, to the Drake Hotel and hundred dollar political dinners, the fact that the good woman is probably the best cook north of Madison Street, makes me unwilling to risk a marital fracture, and thus lose this culinary expertise over merely the height of some eighty year old vacuum tube!

As collectors know, the envelope was spherical in shape, because the first tube envelopes were made by lamp manufacturers, and lamps were spherical. Those who have had experience with spherical

audions, know of several seemingly unorthodox methods of construction and operational characteristics. Because filaments were delicate and unreliable, most of these audions, had two filaments. The lead to the second filament, ended the end of a wire in the base, so a wire could be soldered to it, if and when the first filament expired. The base was a candelabra that looked like it had been stolen from a flashlight bulb. I would caution those fortunate enough to own a spherical audion, that these filaments are extremely delicate. I doubt that these filaments were ever very rugged, and they become brittle and delicate with age. I was chagrined to find one of my single filament audions, missing a "loop" (filament). Closer inspection revealed the filament in the bottom of the bulb, when I turned it over to look at it. Apparently, it had broken from just the normal handling of the bulb.

Several peripheral devices add to the desirability for such ancient tubes. I was fortunate enough to have the carton the tube came in, and the photograph shows it posed along the side the tube in my display. Completely aside from technical considerations, one of my audions was stored for years in the basement of an expired ham, who had stored it in a pickel jar!

In documenting the several tubes in my collection, I have used various publications, including early copies of QSTs. In several instances, these sources are listed, largely to avoid challenges from others, with other information.

The second tube in the display, and below and to the right of the

spherical audion, is one that appeared about 1915. During this period, there developed a flurry of activity that brought a number of cylindrical shaped tubes, as envelope configurations moved from spherical, to vertical envelopes with bases. While varying somewhat in size, these cylindrical tubes were generally about $\frac{3}{4}$ inch in diameter, and $3\frac{3}{4}$ inches in length. The tube in my display is an audiotron, but these tubes were manufactured by several companies, with different names. The greatest number of these was made by Elmer Cunningham, and the name Audio Tron was registered by him.

Although the glass envelopes of these tubes were similar, a wide variety of paper labels was used, and cemented to the outside of the glass. One of mine, has a cheap looking paper label with a red boundary and crude printing stating that it was a "genuine" Audio Tron. Surprisingly, some of these tubes were still sold after base configurations became common.

To provide a means of changing these tubes, without disturbing other circuit components, a mounting using a bakelite sheet was used as a back mounting support for the tubes, and binding posts were fitted to connect to the wires coming out of the tube. A few of these tubes were jammed into hollow tube bases, and the leads fastened to the socket pins of the adapter base.

The top shelf of the collection displays the early base type battery tubes that brought radio into our homes. At the extreme left is a

photo of an early World War One tube made by the Grammont company. To it's right is one of our famous VT1 tubes of the period. The very small tube to it's right is a Western Electric WE-215A, which was listed in 1991 and was used in a number of aircraft radios.

The next two tubes are the ones that actually brought radio into the American homes and ruined many rugs and carpets because of their sulphuric acid being spilled on the floor. The UV200 was called the detector and the UV201, the amplifier. Structurally, the two tubes were identical, but the UV200 actually had a small amount of gas inserted in it, which presumably increased it's sensitivity, but made it unable to withstand higher plate voltages. The UV201 was evacuated as well as possible, and was able to withstand the higher plate voltages necessary for higher output amplifier service. The one ampere filaments of both tubes, required either frequent trips to the local garage to have them charged, or the use of a "Tungar" tube rectifier in a battery charger, to keep the batteries charged at home.

The high filament drain made their use in multi tube sets such as the superheterodyne, impractical. Before the coming of the lower drain UV201A, supers were forced to use low drain dry battery tubes, such as the WE 215A. The light given off by these tubes, inspired numerous jokes, such as: "The tube works fine, but the light it gives off is so dim I can hardly read by it."

This story continues in next issue.

I am submitting my latest ad for the next edition of the ARCA Gazette. I hope this one is as successful as the last one. These ads really do get results, either that or I have been extremely lucky! I hope your collecting is going well and the summer heat has not yet taken its toll as it almost has on us over here in Texas. It's almost too hot to go out to the local flea markets. ALMOST! Anyway, thanks for running the ad for me. Regards for now. Sam W. Wrenn, 2314 Seminole Drive 1207, Arlington, TX 76010.

Wava and I want to thank ARCA for the beautiful 50th anniversary card that *you all* sent from the Spring Meet.

We really appreciate hearing from so many of our ARCA friends. We had a very nice open house and we were sorry to have missed the ARCA Meet.

Sincerely, Ross and Wava Rose Smith

We would like to express our thanks to you and the Board of Directors of ARCA for the splendid plaque we have been awarded in recognition of the years we served as Editor and Publisher of the ARCA Gazette.

In many ways, it was a demanding assignment, but it kept us in touch with great numbers of the members and established friendships along the way.

It is not easy to gauge how well one is performing in volunteer work like the Gazette, so it is very pleasant to have received the award signifying that our efforts were appreciated.

Sincerely, John E. Drake and Ruth M. Drake

What a great and heart-warming surprise it was to receive your letter, informing us of the Board's decision to make us Honorary Life Members of ARCA! We feel honored indeed to have been so singled out by our Club with which we have been associated for so many rewarding and interesting years.

The kind words contained in your letter, Lloyd, while no doubt more than we deserve, are most appreciated. We have decided to preserve your letter, along with the Life Membership Certificate and Card, in an appropriate frame so that we can display it proudly in our home. We do thank you!

Sincerely, Jane and Bill Denk, 81 Steeplechase Road, Devon, PA 19333.

ARCA-PARS NATIONAL CONVENTION PITTSBURGH, PA JUNE 1992

LIFE MEMBERS

Bruce Kelley W21CE, HONORARY
Bill & Jane Denk, HONORARY
John & Ruth Drake, HONORARY

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Deanna & Donald Hames
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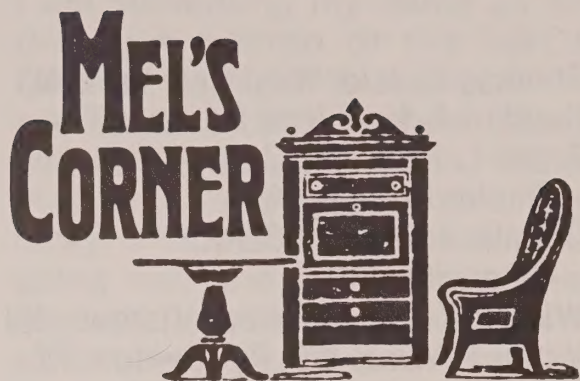
OUR NEWEST MEMBERS

Michael S. Heffner, Williamsport, PA
Stephen E. Balog, Avenel, NJ
Apirak Sillapachai, Honolulu, HI
Robert E. Lutz, Jr., Lenexa, KS
Tommy Fowler, Simpsonville, SC
Al Long, Chesterland, OH
John R. DeLoria, Chicopee, MA
William G. Mitch, Hebron, IN
Gordon Symonds, Ottawa,
Ontario, Canada
Robert J. Lange, Pasadena, MD
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Stanley Abramson, Monroeville, PA
Bob Breedlove, Lovington, IL
Ted Gardner, Littleton, NH
Rich Stamer, Collingswood, NJ
Jay Kiessling, Finksburg, MD
Thomas L. Dorsey Sr., Baltimore, MD
Willard M. Greene, Phoenix, MD
Steve P. Noga, Millersville, MD
Samuel Cannan, Baltimore, MD
David M. Ridderhof,
Fredericksburg, VA

Thomas Cascio, West New York, NJ
Richard A. Hall, New Haven, CT
Frank L. Brewster, Jr.,
Baxter Springs, KS
Camille S. Marie W3EPR,
Pikesville, MD
William Kilmurray, Hackettstown, NJ
Victor E. White W5LRU, Denton, TX
Mike Flaherty, Bethesda, MD
Robert L. Dorman, Jr., Millsboro, DE
Bill Puhak, Millersville, MD
Bob Langeloh, Sterling Hts., MI
William Farrelly, Bethpage, NY
Clint Springer, Tyler, TX
Dusan P. Bulic, Port Washington, NY
E. Carter Elliott, Charlottesville, VA
John Stephen Hall, Winfield, WV
Mr. & Mrs. A. Michael Perry,
Huntington, WV
Joseph Buchman, Knoxville, TN
Luis R. Amory, Bloomfield, NJ
Hans Alderliesten, Victoria, BC,
Canada
David B. Timco, Miami, FL
Lewis Newhard, Northampton, PA
Don McQuillen, Iowa City, IA
Mike B. Feher, Manassas, VA
John J. Fritz, Lancaster, PA
Dan Knode, Cheverly, MD
William C. Weller, Timonium, MD
Joe Graber, Baltimore, MD
Michael G. Murray, Woodbridge, VA
Barry S. Dagestino, Alhambra, CA
Jerry Berg, Naperville, IL
Robert Shepherd, Rockford, IL
Mortimer Rogoff, Washington, DC
Donald W. Fone, Jacksonville, FL

REINSTATE

Jim Van Sant, Jasper, GA
James & Felicia Kreuzer, Elma, NY
Zane W. Parsons N80LD, Kenova, WV
John England, Alexandria, VA



Sometimes we stop and wonder—how antique radio collectors took hold with the ever expanding Radio Clubs in this country and around the world as well.

Museums in early years managed to accumulate early telegraph equipment that was beautifully restored to their original brass finish. An outstanding example of this is shown in the British Science Museum in London. A sight to see!

When Heinrich Hertz explored the propagation and transmission of wireless waves, later known as Hertzian waves, Marconi expanded his findings and theory into usable wireless transmissions by means of Morse code signals. Radio, as we know it today, was well on the way then!

The telegraph equipment in Museums at that time were superseded by the scrapping of old ships. This provided early wireless equipment to the ever-expanding displays of electrical equipment in their Museums.

A few radio amateurs in later years became aware of these wireless items shown there. Did these Museums provide the incentive to save the old outdated equipment displaced the rapid advancements of radio technology?

Following World War II some ham radio operators started looking over some of their old outdated radio gear which had been pushed aside and confined to attics. What do we do with this stuff? Too good to just toss out? Just fond memories of the past?

Memories! That's the answer! That's History! It dawned on a few at first—here is a means of seeing these old items being preserved for posterity!

The word got around via the Ham nets on the air. Soon a meeting was arranged at Canandaigua, New York—a small group had decided—this was a GO! Not long after this the Hams' old equipment started showing up at Bruce Kelley's barn in Holcomb, New York.

It was merely then a meeting of the older Hams — to reminisce, about experiences of the early days — which they enjoyed going over. They brought along examples of prominent sets to exemplify the qualities of good and bad items they had experienced. As this grew, they started restoring and polishing this old equipment.

Finally it was decided that Bruce's Barn would be an ideal place to exhibit and store these old artifacts. Donation after donation of old gear started to arrive there, so much so that the second floor of the barn had to be cleared out for exhibits! Following the sets that arrived came loads and loads of PARTS! These were finally amassed in piles! If you needed a certain part—and really needed it—Bruce would say, "Pick it out—for Free!"

The better items, such as tubes, spark gear, and the like were promoted to the second floor exhibits—which was a sight to behold!

These barn exhibits later resulted in the establishment of that now famous AWA Electronic Communications History Museum at East Bloomfield, New York—which thousands have come from all over the world to see.

When these barn exhibits were set up, there were very few radio collectors then, as we know them today. Folks began to realize the value of these items and their interests grew—old radio items were suddenly in great demand.

It was mostly the Hams who liked the idea of restoring a set or two—to place on their shelves in memory of their past endeavors. Very little thought was given to selling or trading—all of which came along much later.

The birth of collecting started when fans started seeing these items in old equipment contests, where ribbons were awarded for best of show. Flea markets evolved, bringing hundreds of items in various areas of collecting.

At first it was only early gear from the 1920's period. Then as interest in the broadcasting area grew, home radios boomed with their fancy cabinets and consoles. TV's later came into the picture and are now collectible items! Compact transistors then became the rage of collectors, followed by the Cathedrals and Tombstones. Now the demand is for Catalin PLASTICS. Collectors are mostly interested in the area which they grew up with—with the advances of civilization!

Did this all start with a pile of old radios and parts in a BARN at Holcomb, New York?

Cheerio! Mel

SOME PROFESSIONAL SERVICES AVAILABLE FROM ARCA MEMBERS

Repair/Restore

Robert J. Goad
8441 Flagstone Dr.
Tampa, FL 33615
(813) 885-1258

Everett Ludley
301 Edgewood Dr.
Webster City, IA 50595
(515) 832-3763

Dave Johnson
2336 S. Kenilworth
Berwin, IL 60402
(312) 484-2743

Jack Bowers
RR2, Box 212
Highland, IL 62249
(618) 675-3471

Ross Smith
1133 Strong Ave.
Elkhart, IN 46514
Robert E. Mogle
11835 Old Orchard Dr.
Indianapolis, IN 46236

Arthur L. Fox
5 Downing Rd.
Lexington, MA 02173
(617) 862-6352

Richard Foster
12 Shawmut Ave.
Cochituate, MA 01778
(508) 653-2418

Walt Wrabek
Rt. 4
Menahga, MN 56464
(218) 564-4623

Doug Heimstead
1349 Hillcrest Dr.
Fridley, MN 55432
(612) 571-1387

Doug Burskey
732 Pulver-List Rd.
Mansfield, OH 44905
(419) 522-5669

John Okolowicz
624 Cedar Hill Rd.
Ambler, PA 19002
(215) 542-1597

Ye Old SWAMP SHOP

FREE ADS

Up to twelve Gazette lines of copy are available to our ARCA Members!! We do ask that you write your ad on a separate sheet of paper, type if possible, or print, and be sure to include your name and address. We reserve the right to edit all ads. ARCA is not responsible for any transactions, of course.

Owing to time constraints, we cannot extensively proofread names, addresses, or numbers. If a mistake appears in your listing, please notify the GAZETTE and we will print a correction in the next available issue.

ANTIQUE RADIO SETS. I collect early battery type antique radio sets—parts and components. Contact Mel Comer, 205 Roberts Road, Ardmore, Pennsylvania 19003, Phone (215) 642-5329.

PLASTIC DIAL LENSES. We do reproduction plastic dial lenses. Our ad is in the July issue of A.R.C. Call or write me for more information: L. W. Terrell, 7109 E. Arbor Ave., Mesa, AZ 85208, Phone (602) 830-7849.

RADIO COLLECTOR. Bet you never heard this one. An old friend down in Baton Rouge, Louisiana is an avid radio collector! Not an easy area to find these items! But—if you have a set or so of interest there is the possibility of a trade.—For what?? We have plenty of alligators down here—available? Wes Chatellier, 1950 Chevellier Drive, Baton Rouge, LA 70806.

FOR SALE. ARCA-Hawaii Chapter T-Shirts. ARCA Logo on the back, Hawaii Chapter Logo on Front Pocket. Heavy Duty with T-Shirt. Black Print. Sizes S, M, L, XL. \$11.50 PPD Surface. \$13.00 PPD Air. ARCA-Hawaii, 95-2044 Waikalani Pl. C-401, Mililani, HI 96789, (808) 847-3313.

WANTED. Vol. I, II, III & IV of Rider's Radio manuals. **FOR SALE.** Vol. 4-6-8 of Rider's TV manuals still in original shipping cartons. **BEST OFFER.** Dick, 12511 S. 83rd Ave., Palos Park, IL 60464.

1940+/1 RADIO. I have a 1940+/1 radio made in Hollywood, Calif. It has a rearing metal horse on its base (brown and brass) The radio is in perfect working order but sometime in its history, someone removed the metal saddle from the horse's back (probably a child!). I am very interested in finding a replacement. Could you possibly assist me in where I might start researching for it. Any help you could give me will be much appreciated. Thanking you in advance, Bonnie Hardenbrook, 3655-B Baconrind Road, Reno, Nevada 89510.

OLD TYME RADIO CENTRE. When in Ontario Canada why not take time to visit the Old Tyme Radio Centre. Many floor models and some table model radios from the 1920s-1930s, completely restored and on the market for sale one more time. Phone (519) 881-0249 for appointment or write The Old Tyme Radio Centre, RR#3, Walkerton, Ontario Canada NOG 2V0.

WANTED. As a restorer of old radio gear, it seems I constantly am in need of audio XFMR's—good ones—or open ones. If you have any to share, let me know with prices for same. Bill Noro, 126 Evaline Rd., Pittsburg, PA 15233.

SALE. Last ad brought great results! However, I still have some great items available. Send small SASE for this list. Shelby L. Tanner, P. O. Box 711, Blackriver, NY 13612, Phone (315) 785-8127.

CUSTOM WOODWORK. Woodwork my specialty! Let me know your wants—custom woodwork for old radios—restore or a replica? **Atwater Kent** items come and go on regular basis—trades possible. Larry D. Barry, 212 North 6th St., Chambersburg, Pennsylvania 17201.

SALE. Only takes a small SASE to get my latest list of over 300 radio items—now that I am boiling down a bit. Some items you rarely find still existing. Jim Collings, 12005 Victoria Place, Oklahoma City, Oklahoma 73120, Telephone (405) 755-4139 (Home); (405) 840-6991 (Work).

QTC. Your last chance to get that rare book—QTC by Ray Redwood "Sparks", an early radio ships operator. The background of those famous ships that met disaster with SOS! The travels worldwide in many ports. Historical background galore! A great sense of humor which is most enjoyable! Paperback at \$10.85 postage paid (while they last). Sequoia Press TX, 2502 Cockburn Drive, Austin, Texas 78745.

WANTED. Giblin receiver, detector and 2-stage amplifier units, one, two or the set. 20 and 25 turn Giblin-Remler honeycombs (last two to complete my set!). Wecco crystal set model "Stowell". Polle-Royal "gem of the air" radio parts, anything from the front panel to the back, including tuning caps/tuning coils, tube sockets, knobs, and schematic. Band selector knob for Scott Allwave 15. Apco twin tubes. Triad triangular tube boxes. Warren horn speaker. Dymac (Electrical Products Mfg. Co.) horn speaker and/or radios. Hanscom "superunit" superheterodyne receiver. Radio progress magazines. Anything radio-related that was made in Rhode Island. Leonard J. Arzoomanian, 61 Columbus Ave., North Providence, RI 02911, (401) 232-0869.

HARD TO FIND RADIO PART?

Let me know what you are up against. I have the facilities to make them! Specialty is: very old items of 1920's and before that period. Try me! James A. DiRuzza, 2607 Old Troy Pike, Dayton, Ohio 45404, Tel: (513) 233-5004.

PLACE YOUR ADS. See me at the Rochester AWA Meet. Place your ads for future Gazette issues at that time for needs, buy and sell or trades. You can't miss me there—two old time spark transmitters on roof of car! Mel Comer, 205 Roberts Road, Ardmore, PA 19003.

SALE. Send SASE for my list of hundreds of parts and tubes list. Items you don't normally find anymore! Harry Cap, 190 Beach St., Bridgewater, Mass. 02324, Tel.: (508) 697-8648.

WANTED. Unusual radio/lamp combinations, standard manufacture, with original shades. Also, radios/TVs with oriental-style cabinets. **FOR SALE.** Guild radios in fine original and working condition. Town Crier ("lantern"), \$130. Country Belle ("telephone"), \$85. Gerald Schneider, 3101 Blueford Road, Kensington, MD 20895. Tel. (301) 929-8593.

FOR SALE. 1920's "Majestic A & B" battery eliminators. 1 ea. 6v, 2½ A variable output. 1 ea. "B" battery eliminator, 3 outputs, 5-45 v, 45v-90v, 80-135v. 2 ranges variable, has BH tube rectifier, in working order, mfr. Grigsby-Grunow. 1 ea. Kuprox mod. 106 combination "A" & "B" eliminator, 6V, 0-45V, 45-90V, 80-135V. 1 ea. "B" battery eliminator "Kingston", 5-45V, 45-90V, 80-180V. Mfr. Kokomo Electric. Photos \$1.00 refundable. Best offer plus UPS. Units are approx. 25 lbs. ea. George Greenberg, 1701 Andros Isle K-2, Coconut Creek, FL 33066, (305) 971-9053.

WANTED. Scott Philharmonic, McMurdo Silver Masterpiece, etc. in California only. Gary Glazier, 3031 El Caminito, La Crescenta, CA 91214, (818) 248-1693.

FOR SALE. "Mint" condition. Zenith Model 10S464 console. Have copy of original illustration and specs. from Zenith. Goliath chassis. Big black airplane dial. Polished wood. Built-in SW aerial. H41½" W28½" D15¾". Moving—must sell. Send offer to: Nica, 151 Seaview Sq. Mall, Ocean, NJ 07712.

WANTED. Remler superhet kit owner seeks info so he can restore original circuitry. I believe it originally used 7 UV199's in an autodyne set up with 3 IF stages and 2 AF stages (using 2 Jefferson Chicago audios with 2 phone jacks), but someone added an 8th stage and UV199, perhaps adding a local oscillator. Additional features are a 0-5V Weston meter, 2 Pacent rheostats, and 2 Remler "clamshell" tuning condensers. Anyone with original schematic, pictures/diagram and original parts for front end? Harvey E. Faulkner, 201-1 Villas Drive, New Castle, Del. 19720, Phone: (302) 322-9282 after 5 p.m.

FOR SALE. Orthophonic Electrola Radiola No. 9-40. Radio operates, cabinet excellent. Massive set, pick up only \$245.00. James M. Cole, K4HR0, 240 Gillespie Drive, Abingdon, Virginia 24210. Ph. (703) 628-2835.

WANTED: Found a blue Arcturus 7-pin type PZH tube. Any information appreciated. Itsuo Yano, 80 Lehua St., Kahului, HI 96732.

COIL FORMS. New WD-11 type bases and adaptors are available. We are now making replacement coil forms for National SW3 radio receivers. James Fred, R1, Box 41, Cutler, IN 46920.

WANTED: Crosley 11 AB and RCA 5Q55 radios in very good cosmetic and working conditions. Paying reasonable premiums. Dennis Ward, Rt. 2, Box 326, Cairo, GA 31728.

WANTED. Power Transformer for Knight R/C Tester 83Y124 w/secondary voltages 6.3, 60 and 500. Majestic chassis Model 151 (Havenwood) or 153 (Ellswood). Cabinet and speaker for Philco 40-155. Crosley chassis 148. Variable condenser for Philips B4X26A. All chassis should be working or restorable condition. Information on Philips Farm Set BX328B/S3 Nr L14576E. Information on Telefunken Caprice K 1151. Carlos Martinez, #21 Colonel Irizarry St., Cayey, PR 00736, (809) 263-2741.

WANTED. 100 watt, 50 ohm, non-inductive resistor or 100 watt dummy antenna. Tad Drogoski, 507 Coal Valley Rd., Jefferson Bozo, PA 15025-3703.

WANTED. Panasonic Model TR-1030P 1.5 TV set. Ken Greenberg, 4858 Lee, Skokie, IL 60077, (708) 679-8641.

FOR SALE. Many of your favorite old time radio shows are available on tape cassettes. You select the shows you want and purchase them by the hour. Fast, friendly service. Send for our catalog listing nearly 5,000 shows arranged by category and title. Only \$2.00 (P&H). send request to: Erstwhile Radio, P. O. Box 2284, Peabody, MA 01960.

FOR SALE. Majestic 71 console, 1928, walnut, upper front window dial, lower oval grill, three knobs, BC, AC electronically restored, perfect condition. \$1225.00. Pick-up only. Robert Schrantz, 610 E. Juanita Ave., San Dimas, CA 91773, (714) 394-1194.

FLYER. Have you missed my latest flyer on that rare Gernsback book—Ralph 124C-41+? A romance of the year 2660! A 1920's prediction of what's to come and has *become*. Old Tyme Radio Co., 2445 Lyttonsville Rd. #317, Silver Spring, MD 20910.

WANTED. Knob for a Philco Model 42-360 (Band Switch). Radio came out of Hotel Barre, Barre MA, Michael J. Seaborne, P. O. Box 38, Hubbardston, MA 01452, Tel. (508) 928-5653.

FOR SALE. Zenith Transoceanic Model H500. Fair case, complete but not working. \$45.00. Sam W. Wrenn, 2314 Seminole Drive 1207, Arlington, TX 76010.

FOR SALE. Majestic Model 90 Chassis and Power Supply. No tubes or speaker. Untested. Make offer. Sam W. Wrenn, 2314 Seminole Drive 1207, Arlington, TX 76010.

SPECIAL SALE. New and used electron tubes at under market prices. New 17JZ8—\$5.00 and New 12AX7—\$2.50. A used 12AX7 for \$1.25. Send wants and large SASE for partial list. Carlos Martinez, Call Box SAN, Suite #042, San Antonio Station, Cayey, P.R. 00736.

WANTED. Zenith Royal 500's, 7 or 8 transistor, nylon cabinet, round speaker versions any color. Doug Burskey, 732 Pulver-List Rd., Mansfield, Ohio 44905, Telephone (419) 522-5669.

FOR SALE. RCA Victor R-8 Superette-Tombstone. Not working, slight hum, no stations. Wood OK, finish not excellent, but can be saved \$185. **Also** RCA Radiola Superheterodyne, AR-812. Early battery set, portable. Untested. Finish is solid but has that alligator skin appearance. Handle missing. \$115. Also many other radios, books and collectable tubes. Send 2 stamps for complete listing to Ron Boucher, P. O. Box 541 (GA), Goffstown, NH 03045, Telephone (603) 497-2988.

WANTED: Radio Retailing and Radio Today magazines. Doug Heimstead, 1349 Hillcrest Drive, Fridley, MN 55432, Ph. (612) 571-1387.

VINTAGE RADIOS. More than 140 vintage radios, loudspeakers, Canadian and U.S.A., from 1919-up. More than 30 years of accumulation. Old instruments, tubes, etc. Must sell in BLOCK. Send for list. Ernest Sisak, 97 Eastlawn St., Oshawa Ont. Canada L1H7J7, Tel. 728-9074 or 725-3424.

FOR SALE. Wells Gardner (Airline) Model 62-197, 16 tube receiver as described in ARCI 1991 Summer Bulletin. All chrome-plated tuner and AMP/PWR supply, as well as twin 12 inch spkrs. Asking \$500. Pick up only. Don Johnston, R. 1, Box 218A, Windfall, IN 46076, Phone (317) 945-7735.

KEEP YOUR CALENDAR CLEAR JUNE 92 ARCA-PARS NATIONAL CONVENTION

THE ANTIQUE RADIO CLUB OF AMERICA, INC.

Regardless of the month in which you joined ARCA, renewal dues are payable in January.

ONE YEAR dues — **\$12.00 U.S.** in USA/Canada/Mexico, **\$14.00 U.S.** in all other countries

FIVE YEAR dues — **50.00 U.S.** in USA/Canada/Mexico, **\$60.00 U.S.** in all other countries

LIFE membership dues — **\$150.00 U.S.** in USA/Canada/Mexico, **\$190.00 U.S.** all other

One time only — convert **FIVE YEAR** membership to **LIFE** membership — **\$100.00 U.S.**

(**LIFE** memberships are payable in installments — see Fall 1990 Gazette)

Please make check or money order payable to **ARCA** (Payments from outside the U.S. should be made by International Postal Money Order) and send to:

ARCA • Jim & Barbara Rankin • 3445 Adaline Drive, Stow • OH 44224

New membership card will be mailed to you with next Gazette following receipt of payment.

COLLECTOR BOOKS

Antique Radio Restoration & Price Guide by David & Betty Johnson, 1000 Sets	\$12.95
Guide to Old Radios, 225 pgs., by David & Betty Johnson, over 350 photos	16.95
Seventy Years of Radio Tubes & Valves by John W. Stockes (SC) 250 pages	19.95
Radio Enters The Home, 128 pgs., 8.5X11	14.95
Radio Equipment & Supplies - 168 page reprint, circa 1922, 8.5 X 11. 13.95	17.95
1927 Radio Encyclopedia - Gernsback, 179 pgs.	11.95
Crosley Radio Catalog, circa 1923, 32 pages	4.50
Meissner "How to Build" Instruction Manual 8.5 X 11, 168 pages - NEW	9.95
Short Wave Radio Manual, Official 1934, 260 pages	14.95
How To Repair Old-Time Radios, 162 illus., 252 pages	11.95
Vintage Radio Handbook, 263 pages, 1000 illus.	11.95
Flick Of The Switch 1930-1950, 312 pages, 1000 illus.	11.95
Most Often Needed Diagrams 1926-1938, 600 models	11.95
1921-1932 Collector's Guide, 264 pg., 9,000 models	11.95
Atwater Kent-2 Volume Parts & Service Book Reprint, 24pgs. 8.5X11	7.95
ARVIN—The First Sixty Years, 263 pages	7.95
Radio For The Millions, a fun book, 192 pages PB	8.95
High Power Wireless Equipment, circa 1910-1911, 99 pages	9.95
Instructions For Operating Grebe Radios, 64 pages pocket size	4.95
Atwater Kent Instruction Book Vol. II, an exact color reprint of the original	8.95
How To Build and Operate Short Wave Receivers, 72 pages	7.95
Official Radio Service Manual, 1930 Gernsback, 8.5X11, 356 pages	19.95
The Story of Nipper and His Master's Voice, 64 pages, illustrated	9.95
The Cat's Whisker, 50 Years of Wireless Design, HB (rediscovered copies)	14.95
Radio Station Treasury 1900-1946, 8.5X11, 176 pages	12.95
Gernsback's Shortwave Library, 10 books, Vols. 1-10, each (specify volume)	2.25
Tesla's Experiments With Alternating Current, 170 pages	9.95
Collector's Guide to Antique Radios by Marty & Sue Bunis, 5,000 models, 400 color pict.	16.95
Radio Speaker Encyclopedia, 8.5X11, by Floyd A. Paul, 145 photos, 320 mfgs.	11.95
Fifty Years of Radio, March 1938 Issue of Hugo Gernsback's famous publication - 134 pgs.	15.95
Radio Manufacturers of the 1920's, Vol. 1, Very Large, by Alan Douglas	22.95
Radio Manufacturers of the 1920's, Vol. 2, by Alan Douglas,	26.95
Radio Manufacturers of the 1920's, Vol. 3, - NEW - Coming Soon	29.95
Radios—The Golden Age, 120 pgs. Full Color by Phil Collins	14.95
David Sarnoff, biography, HB, 372 pgs., The RCA Story	14.95
Man of High Fidelity, Edwin H. Armstrong, PB, 272 pages	3.50
Vision by Radio! by C. Francis Jenkins, 140 pages	9.95
Thomas A Edison - A Stroke of Luck, PB, 562 pages	13.95
Saga of the Vacuum Tube by Gerald Tyne, 494 pages	15.95
Nikola Tesla, Inventions, Research, Writings, 496 pages PB	16.95
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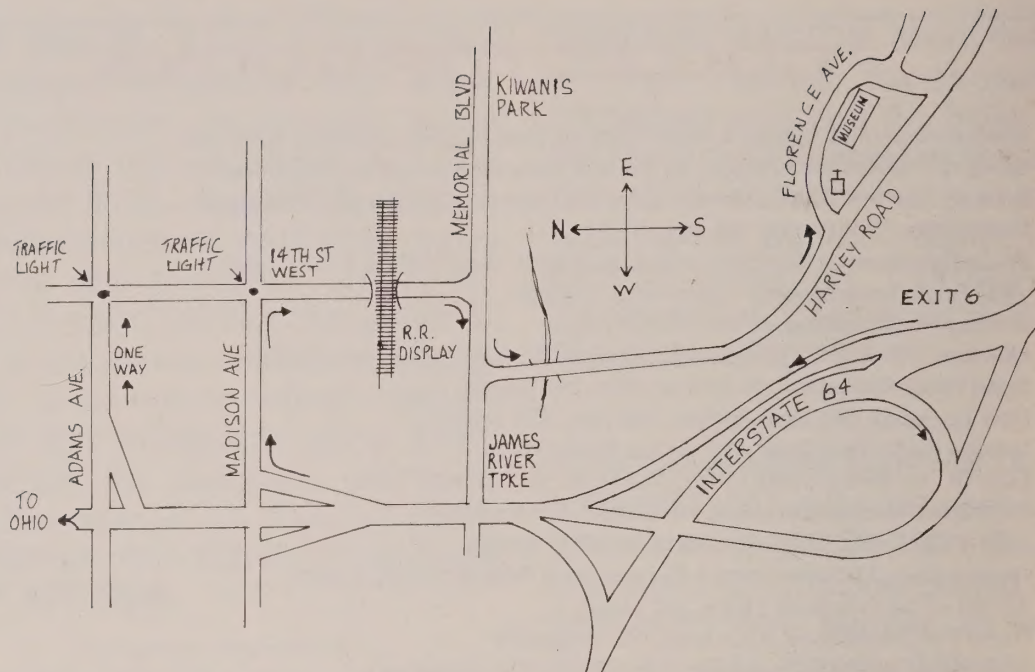
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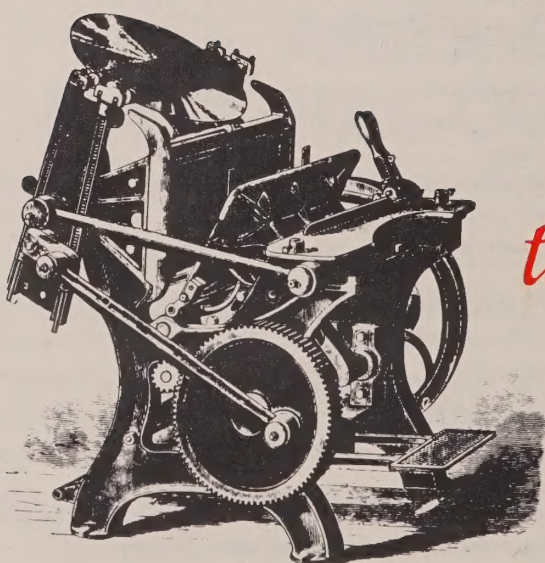
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